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Program Management Office

HHS IRM Strategic Plan 2007-2012

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Document Summary

This document, the *HHS IRM Strategic Plan 2007-2012*, updates the *HHS Enterprise IT Strategic Plan FY 2006-FY 2010* and thereby performs three important tasks:

1. It aligns Information Resources Management (IRM) strategic planning with the major update to the Health and Human Services (HHS) Strategic Plan 2007-2012;
2. It reports on and introduces important changes to IRM strategic planning and performance management methodology that are being implemented as part of a broader rollout of the HHS Enterprise Performance Lifecycle (EPLC) framework and a maturing Enterprise Architecture (EA) capability; and
3. It produces the required update to the information resources management (IRM) performance management plan.

In keeping with HHS Office of the Chief Information Officer's (OCIO's) commitment to furthering institutionalization of the EPLC and EA mission and management business areas, and maintaining IRM as a business-driven and up-to-date supporting partner for the Department, a series of nine business area-specific IRM strategy workshops was conducted in December 2006. Each workshop focused on a particular domain of the HHS mission, and called upon subject matter experts (SMEs) to identify desired IRM support both for specific business needs and for a robust and flexible general infrastructure. The workshops were timed so as to include direction from the parallel HHS strategic planning exercise being carried out by the ASPE. The output from these workshops was analyzed and combined as part of the preparation to update this IRM Strategic Plan.

The workshops produced the IRM Mission, Vision, Goals, and Objectives which are contained on pages 29-33. The mission and vision statements were developed to reflect the consensus view of IRM as an effective partner for business, driven by business needs rather than technological dictates. The makeup of the business area SMEs attending the workshops also reflected this aim by including a mixture of business and IRM experts.

The revised IRM goals and objectives are aligned to address the IRM "feedback" that came out of the individual business area workshops. The feedback was compiled into IRM "themes" that are recorded in the following figure. These themes are considered the unified expression of IRM needs and areas for investment. These themes will also be evaluated against the 18 Federal Transition Framework (FTF) initiatives just published in December 2006. These initiatives will also be IRM priorities for the Department.

Table 1 – HHS Common IRM Themes Across Business Areas

Common IRM Themes
Data/Information Dissemination
Quality of Data (i.e., accuracy, authoritativeness, completeness, integration)
Provision of Impact Analysis (e.g., baseline analysis, trend analysis, etc.)
Disparity of HHS Security Controls and Standards (e.g., role-based access, data confidentiality and privacy)
Non Alignment of OPDIV and Segment Goals and Objectives
Questionable Segment Performance Measurements
Data Standardization/Harmonization
Data Model and Meta-Data
Decision Support Capability
Data Sharing/Collaboration
Adoption and Coordination of SOA
Web Portal (e.g., education, training, one-stop information stopping, conducting business)
Telemedicine and Telemedicine Infrastructure
HHS Best Practices in Information Management (e.g., ITIL)
Software Development Best Practices (e.g., CMMI)
Business Intelligence/Data Mining/Texting Mining

Information Resources Management Framework Status & Plans

To support the successful realization of the IRM goals and objectives, HHS OCIO is pursuing a broad based enhancement of management capabilities based on OMB and Government Accountability Office (GAO) guidance and findings as well as industry and government best practices.

HHS OCIO is currently implementing the processes of the EPLC defining effective processes to integrate management of IRM investments from conception to implementation and operation. This follows significant improvements to Capital Planning and Investment control (CPIC) and Earned Value (EV) processes made in Fiscal Year (FY) 2006.

The EPLC IRM strategic planning methodology was piloted in the nine segment planning workshops held in December 2006. HHS EA Program Management Office (PMO) will follow up by publishing process documents for review and ratification. Details on the methodology are included in Section 2 below. This implementation strategy follows on from progress made in FY 2006 towards developing a generic methodology.

HHS EA PMO will be working to further define and develop the nine (9) EA business areas in FY 2007 including implementing the performance architecture by business area. The EA Program will build on a solid foundation to significantly advance EA maturity and capability in FY 2007.

The PMO team has drafted requirements and is developing a business case for a business intelligence (BI) solution and reporting tool. The plan is to develop an effective performance

management dashboard and reporting capability. Generally in performance management, best practice literature for performance management points to the need for an incremental approach whereby those performance measures and outcomes that are tracked should initially be limited in number. They are then expanded only as institutional capacity and capability grows. As such, the performance management capabilities are planned to grow in line with the maturing of the segment-oriented EA capabilities at the Department.

Conclusion

This *HHS IRM Strategic Plan 2007-2012* represents a major update from the previous plan because of the revision of the *HHS Strategic Plan 2007-2012*, the recent publication of the Federal Transition Framework (FTF) initiatives, and the implementation of numerous management improvement initiatives impacting IRM. This represents an ambitious agenda for HHS OCIO to support the HHS mission and, in the words of the new IRM mission statement, to “efficiently and effectively manage information and information technology resources.”

1. Introduction

1.1. Purpose

This document, the *HHS IRM Strategic Plan 2007-2012*, updates the *HHS Enterprise IT Strategic Plan FY 2006-FY 2010*. A major update of this plan has been performed to coincide with the update of the *HHS Strategic Plan 2007-2012* due for completed in 2007.

The Enterprise Performance Life Cycle (EPLC) integrated strategic planning and performance management methodology utilized in the Information Resources Planning (IRM) planning process and outlined in this plan was developed to comply with the Government Performance and Results Act (GPRA) (1993) and the Information Technology Management and Reform Act (ITMRA) (1996). These acts require that Federal agencies effectively plan, budget, execute, evaluate, and account for Federal IRM programs and investments.

Developed under the auspices of the HHS OCIO, this document sets out the enterprise IRM strategy to support the business goals outlined in the *HHS Strategic Plan 2007-2012*, to implement Federal enterprise initiatives such as e-Government (e-Gov) and the Line of Business (LOB) initiatives contained in the FTF, and to ensure, as its core mission, that HHS as a unified enterprise has access to the most modern and effective IRM infrastructure and common services possible.

1.2. Scope

The IRM Strategic Plan uses a five-year planning horizon (FY 2007- FY 2012) with annual updates as necessary and major updates in parallel with the HHS enterprise business planning cycle. The Strategic Plan records and revalidates the more permanent elements of the planning framework – drivers, mission and vision statements and strategic goals, objectives, and outcomes. It describes the EPLC from a strategic, executive perspective.

The EPLC planning framework is business driven, taking the requirements of the *HHS Strategic Plan 2007-2012* as its starting point. IRM is defined by GAO as “the process of managing information resources to accomplish agency missions. This term encompasses information itself, as well as related resources, such as personnel, equipment, funds, and information technology.”¹ This definition is taken to apply to the following three categories as the scope of the IRM Plan:

1. **Information Resources (IR) Management and Planning and Accountability EA Business Areas.** This includes all categories of IRM investment that are employed in the process of IR management and oversight, including: EA, IRM Human Capital Planning, CPIC, IRM Investment Management Maturity, Training, Policy Development and Monitoring, and Strategic Planning and Performance Measurement.
2. **IRM Infrastructure and Enterprise Initiatives.** This category includes IRM infrastructure investment from the perspective of common, shared IRM services including the traditional view of infrastructure such as networks and shared services. However, this category applies a broader definition to infrastructure to include shared

¹ www.gao.gov/policy/itguide/glossary.htm

infrastructure such as help desks and support processes, shared (or common) services (operating system, security, infrastructure, information, applications), and the infrastructure needed to deliver shared, federated services to consumers. This category also includes planning for Departmental enterprise initiatives which are intended to provide core or essential IRM services in support of all HHS Staff Divisions (STAFFDIVs) and Operating Divisions (OPDIVs) (e.g. Enterprise e-Mail).

- 3. Mission Specific Initiatives.** This category refers to IRM investments specific to HHS mission areas. This will generally include planning for key IRM initiatives including acquisition of systems and applications that support the business area and OPDIV mission areas. It will focus on key IRM priorities that align with HHS goals as identified by the Secretary as well as priority investments as identified by HHS CIOs.

The EPLC process also includes tactical planning. Tactical planning takes as its starting point the strategic goal and performance requirements and establishes a three-year tactical planning horizon for implementation. This process is recorded in the EA Transition Plan and is not in the scope of this plan. This division of analysis allows for regular quarterly updates to be made in the Transition Plan while the Strategic Plan retains a more permanent outlook.

This plan does include a high-level overview of the EPLC tactical processes as well as descriptions of IRM initiatives being undertaken and future IRM investment needs. There is a natural overlap between strategic and tactical elements. This plan aims to maintain a strategic perspective.

As part of the IRM and Planning and Accountability business areas, the EPLC framework that defines the processes under which this plan was developed, is itself currently a key area of focus for the HHS OCIO. As a result, the scope of the IRM Strategic Plan also includes a description of the EPLC Methodology, updates on its implementation at the Department, and plans for further institutionalization and improvement.

1.3. HHS Business and IRM Planning Domain: HHS EA Segment Architecture

The starting point for IRM planning is that it should be business-driven and responsive to the IRM needs of varying “communities of interest” that do not always fit neatly inside the OPDIV and STAFFDIV organizational boundaries. This approach marks a departure from the traditional compartmentalized HHS IT paradigm focused within organizational boundaries with enterprise-wide initiatives concentrated in a few HHS investments. The impetus for this change is both internal – the *One HHS* initiative looks to unify a historically decentralized Department – and external – the OMB adoption of a segment perspective as a means to build out the Federal Enterprise Architecture (FEA), itself aimed at IRM unification across the Federal Government.

The HHS EA Segment Architecture was introduced in FY 2006, so this plan represents the first full-year implementation of the segment approach.

A business area is a logical subset of the HHS business architecture, defined as a set of business functions, using the HHS Business Reference Model (BRM). The HHS business areas thus represent the distinct mission and business functions of the Department without regard to organizational unit. This structure is designed to facilitate the identification of common business and IRM needs – “communities of interest” – and then to provide an effective framework for planning. Figure 2 is a pictorial representation of this concept.

As shown in Figures 2 and 3, HHS has defined nine business areas, of which six are mission-oriented and three are cross-cutting supporting and administrative functions. HHS business areas are in turn divided into segments, which further define the business functions of the business area. At the business function level, HHS business areas are mutually exclusive – that is, each sub-function within the HHS BRM belongs to exactly one business area. Business areas may share elements in common at other layers of the architecture.

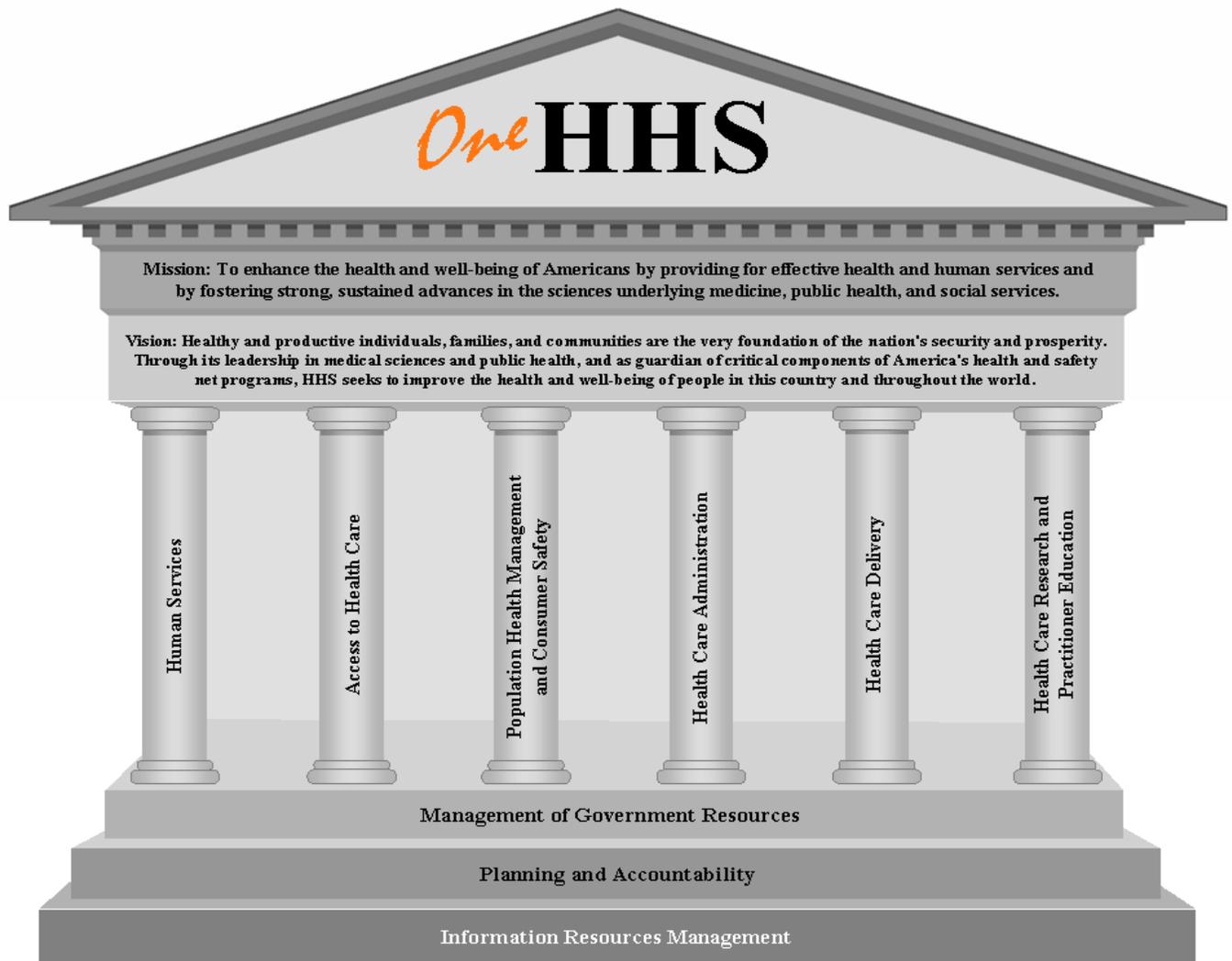


Figure 1 – A Pictorial Representation of the HHS EA Business Area Structure

Each segment architecture is comprised of the business functions corresponding to the segment, with the performance, data, application, technology, and security architecture elements that are linked to the segment's business architecture. As such, the segment level is an appropriate starting point for planning and carrying out strategic initiatives.

HHS has developed the segment-based architecture approach in response to OMB's adoption of a segment perspective as a strategy for building out the Federal Enterprise Architecture (FEA) with the LOB initiatives. Version 2.0 of the OMB EA Assessment Framework (EAAF) included numerous references to the development and use of segment architectures, and the revised EAAF Version 2.1 maintains a strong emphasis on segment architecture, particularly in the Completion capability area. OMB highlights the use of a segment-based perspective in the creation and execution of successful EA transition strategies.

Given the size and complexity of HHS, evolving the HHS EA using a segment approach offers a number of advantages over an OPDIV-centric or investment-only approach:

- **More Business-Driven:** Shifts IRM infrastructure management focus from organizational to functional, service-oriented view.
- **Increases Opportunities for Efficiency and Effectiveness:** Enables HHS infrastructure to support each business segment, providing greater opportunities for enterprise-wide collaboration and reuse.
- **Increases Opportunities for Business Process and Service Improvement:** Enables IR to be allocated to highest value initiatives within areas involving similar programs, grants, IT and other investments.
- **Improves Opportunities for Enterprise Performance Management:** Enables performance definition and management by functional area across the HHS IT enterprise.
- **Improves Support for National Health Information Technology (HIT):** Organizes broader range of HHS SMEs' opinions which can be leveraged to inform the Federal Health Architecture (FHA) Program, the Office of the National Coordinator for Health Information Technology (ONC), health IT vendors, standards entities, and legislative bodies.
- **Satisfies GAO Recommendations:** Provides a framework for IRM to meet GAO Recommendation for Increased Business Participation in CPIC.
- **Meets Federal Government Management Expectations:** Satisfies OMB requirements for segment architecture.

The purpose of the segment approach is not to isolate portions of the architecture, but instead to provide multiple logical groupings of architecture information according to common purpose, objectives, business capabilities, or other characteristics. Defining the HHS EA in terms of segments makes the unwieldy more manageable, and allows the HHS EA Program to evolve the EA incrementally over time while still providing immediate business value. The prioritization of segments or sub-segments for development is driven by current Departmental needs and priorities, and also with consideration for the potential contribution a given segment can make to the overall target architecture.

A particular strength of the segment architecture arrangement is the ability to identify particular needs between or among segments based on business or other relationships. Segment planning thus effectively identifies and manages needs at the segment, multiple segment, and enterprise levels.

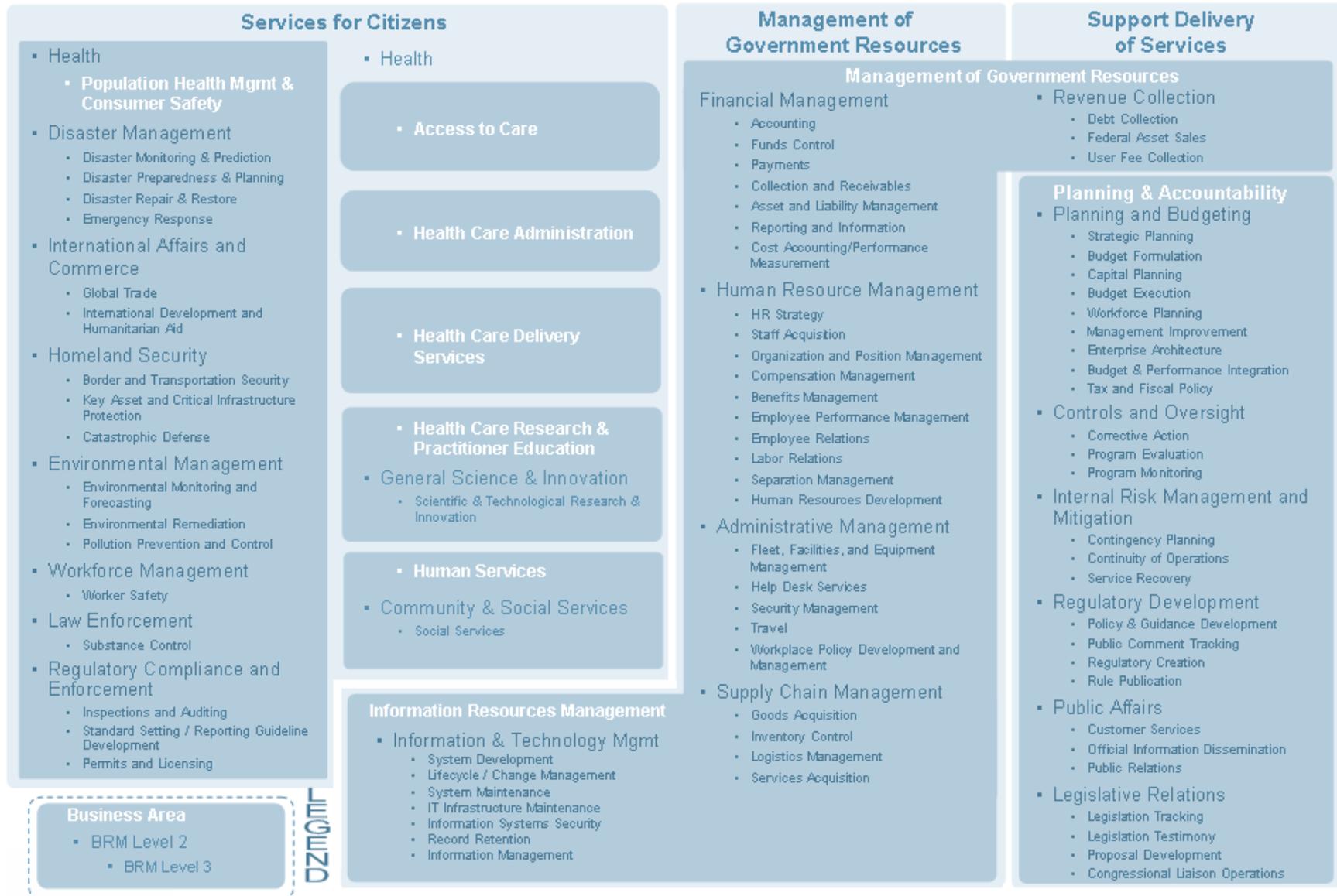


Figure 2 – HHS EA Business Areas

2. HHS Mission and Environment Analysis

HHS IRM strategic planning is business-driven. The first step is therefore to identify the internal and external business drivers that IRM needs to support. The identification of drivers is termed “environmental analysis.”

Environmental analysis is an integral part of the HHS IRM strategic planning framework as it heightens understanding of the business needs that impact or influence the HHS IRM Strategic Plan. Internal business drivers are those factors within HHS, and external business drivers are those beyond the Department. An environmental analysis also helps in identifying the gaps between the current and desired states of IRM within HHS. The analysis provided below was considered in developing and validating the HHS IRM strategies.

Just as the HHS Strategic Plan is the focus of business planning, so its requirements become the primary focus of IRM planning. The first step to identifying IRM business drivers is then to review the *HHS Strategic Plan 2007-2012* prior to identifying other internal and external drivers.

2.1. HHS Mission, Vision and Goals

HHS defines its Departmental strategies in the *HHS Strategic Plan 2007–2012* and has identified the following mission and vision.

HHS Mission

To enhance the health and well-being of Americans by providing for effective health and human services, and by fostering sound, sustained advances in the sciences underlying medicine, public health, and social services.

HHS Vision

Healthy and productive individuals, families, and communities are the very foundation of the Nation’s present and future security and prosperity. Through leadership in medical sciences and public health, and as guardian of critical components of America’s health and safety net programs, HHS seeks to improve the health and well-being of people in this country and throughout the world.

A core set of public policy principles serves as the basis for the Department’s efforts toward achieving its mission. These principles of governance form the philosophical backbone for how HHS approaches and solves problems. The nine principles, listed below, are not all-inclusive, but do provide the philosophical underpinnings for the HHS Strategic Plan and other planning documents utilized by HHS.

Core Principles

National standards, neighborhood solutions.
 Collaboration, not polarization.
 Solutions transcend political boundaries.
 Markets before mandates
 Protect privacy.
 Science for facts, process for priorities.
 Reward results, not programs.
 Change a heart, change a nation.
 Value life.

To achieve the HHS mission, four strategic goals have been defined and supported by specific objectives. The *HHS Strategic Plan 2007-2012* goals and objectives are listed in Table 1.

Table 2 – HHS Strategic Goals and Objectives for FY 2007-FY2012

HHS Strategic Goals and Objectives
Goal 1: Health Care
Improve the safety, quality, affordability and accessibility of health care, including behavioral health care and long-term care.
Objective 1.1: Broaden health insurance and long-term care coverage.
Objective 1.2: Increase health care service availability and accessibility.
Objective 1.3: Improve health care quality, safety, cost and value.
Objective 1.4: Recruit, develop and retain a competent health care workforce.
Goal 2: Public Health Promotion and Protection, Disease Prevention, and Emergency Preparedness
Prevent and control disease, injury, illness and disability across the lifespan, and protect the public from infectious, occupational, environmental and terrorist threats.
Objective 2.1: Prevent the spread of infectious diseases.
Objective 2.2: Protect the public against injuries and environmental threats.
Objective 2.3: Promote and encourage preventive health care, including mental health, lifelong healthy behaviors and recovery.
Objective 2.4: Prepare for and respond to natural and man-made disasters.
Goal 3: Human Services
Promote the economic and social well-being of individuals, families and communities.
Objective 3.1: Promote the economic independence and social well-being of individuals and families across the lifespan.
Objective 3.2: Protect the safety and foster the well-being of children and youth.
Objective 3.3: Encourage the development of strong, healthy and supportive communities.
Objective 3.4: Address the needs, strengths and abilities of vulnerable populations.
Goal 4: Scientific Research and Development
Advance scientific and biomedical research and development related to health and human services.
Objective 4.1: Strengthen the pool of qualified health and behavioral science researchers.
Objective 4.2: Increase basic scientific knowledge to improve human health and development.
Objective 4.3: Conduct and oversee applied research to improve health and well-being.
Objective 4.4: Communicate and transfer research results into clinical, public health and human service practice.

A critical factor in the Department’s achievement of its mission and goals is its ability to formulate, implement, and manage effective administrative support for its programs – from exercising responsible stewardship over taxpayer dollars to managing employees effectively. The *HHS Strategic Plan 2007-2012* also outlines the following management means and strategies that HHS will employ to facilitate program success:

- Effective Human Capital Management – Recruit, develop, retain and strategically manage a world-class HHS workforce.
- Effective Information Technology Management – Provide a well-managed and secure enterprise information technology environment.
- Effective Resource Management – Use financial and capital resources appropriately, efficiently, and effectively.

IRM is directly involved in these three means and strategies.

HHS’ four strategic goals and sixteen objectives, as well as its management means and strategies serve as the foundation for defining a comprehensive and aligned HHS IRM strategic plan.

2.2. Other Business and IRM Driver Analysis

2.2.1. Internal Business Drivers

Table 3 – Internal Business Drivers

Internal Business Drivers
Secretary’s Priorities
HHS Strategic Plan 2007-2012
Business Area Needs, Gaps, and Requirements
Inspector General (IG) Audits and Reports
Customers/Stakeholders

2.2.2. External Business Drivers

a) Presidential Initiatives and Directives

Table 4 – Presidential Initiatives and Directives

HHS External Business Driver: Presidential Initiatives and Directives
President’s Management Agenda (PMA)
Homeland Security Presidential Directive 7 (HSPD-7)
Homeland Security Presidential Directive 12 (HSPD-12)

b) Legislation

The following legislation imposes requirements that drive the design of the HHS enterprise architecture:

Table 5 – Legislative Drivers

HHS External Business Driver: Legislation
E-Government Act of 2002
Federal Information Security Management Act of 2002 (FISMA)
Information Technology Management Reform Act of 1996 (Clinger-Cohen Act)
Government Paperwork Elimination Act of 1998 (GPEA)
Government Performance and Results Act of 1993 (GPRA)
Health Insurance Portability and Accountability Act of 1996 (HIPAA)

c) National Institute of Standards and Technology Guidance

The National Institute of Standards and Technology (NIST) develops and promotes measurement standards and technology to enhance productivity, facilitate trade, and improve quality of life. NIST’s Special Publication 800 series documents focus on providing guidance related to computer security prototypes, tests, standards, and procedures to protect sensitive information from unauthorized access or modification. As a result of FISMA, NIST publications now impact HHS and serve as mandatory standards for the Federal government. The following NIST publications are identified as having the greatest impact upon the Department’s IRM security efforts.

Table 6 – NIST Security Guidance

HHS External Business Driver: NIST Computer Security Guidance
Security Guide for Interconnecting Information Technology Systems (SP 800-47 August 2002)
Contingency Planning Guide for Information Technology Systems (SP 800-34 June 2002)
Guidelines for the Security Certification and Accreditation of Federal Information Technology Systems Initial Draft (Pub. 800-37 May 2004)
Engineering Principles for Information Technology Security - A Baseline for Achieving Security Rev. A (SP 800-27 June 2004)
Guide for Developing Security Plans for Information Technology Systems Rev. 1, (SP 800-18 February 2006)
Building an Information Technology Security Awareness and Training Program (SP 800-50, October 2003)
Security Metrics Guide for Information Technology Systems. (SP 800-55, July 2003)
Minimum Security Controls for Federal Information Technology Systems Rev. 1 (SP 800-53, December 2006)
Guide to IPSec VPNs (SP 800-77, December 2005)
Integrating Security into the Capital Planning and Investment Control Process (SP 800-65, January 2005)
Guide for Mapping Types of Information and Information Systems to Security Categories (SP 800-60, June 2004)

d) OMB Directives and Guidance

A series of OMB directives and guidance documents impact the development of the HHS IRM Strategic Plan and the identification of enterprise initiatives to execute IRM strategies. The list below highlights selected OMB Circulars and guidance documents; HHS considers and adheres to other IRM and IRM policy and guidance documents issued by OMB.

Table 7 – OMB Directives and Guidance

HHS External Business Driver: OMB Directive and Guidance
Circular A-11
Circular A-16
E-Government Strategy
Circular A-127
Circular A-130
Circular A-76

e) GAO Reports

Several GAO reports issued recently have been incorporated into the environmental analysis as they provide sound guidance or recommendations on improvements related to HHS IRM.

Table 8 – GAO Reports

HHS External Business Driver: GAO Reports
GAO: IT Strategic Planning and Investment Practices (2004)
GAO-03-102 Major Management Challenges and Program Risks – HHS (January 2003)
GAO-03-122 Protecting Information Systems Supporting the Federal Government and the Nation's Critical Infrastructures (January 2003)
GAO-04-991 HHS's Efforts to Promote Health Information Technology and Legal Barriers to its Adoption (August 2004)
GAO-05-309 HHS's Estimate of Health Care Cost Savings Resulting From the Use of Information Technology (February 2005)
GAO-05-628 Health Information Technology, HHS Is Taking Steps to Develop a National Strategy (May 2005)
GAO-06-11 Information Technology, HHS Has Several Investment Capabilities in Place, but Needs to Address Key Weaknesses (October 2005)

2.2.3. Federal Transition Framework (FTF)

The FTF is a catalog of cross-agency IRM initiatives. It is a single information source for government-wide IT policy objectives and cross-agency initiatives including:

- OMB-sponsored initiatives (e.g., e-Gov initiatives, LOB initiatives)
- Government-wide initiatives (e.g., Internet Protocol Version 6 (IPv6), HSPD-12)
- More detail on the specific FTF initiatives is contained in section 4.4 below.

2.2.4. Federal CIO Council Strategic Plan FY 2007–2009

The Federal CIO Council (CIOC) is charged with acting as the “principal interagency forum for improving agency practices related to the design, acquisition, development, modernization, use, operation, sharing, and performance of Federal Government information resources.” More specifically, the Council is directed by the E-Government Act of 2002 [44 USC 3603(f)] to

engage in seven activities¹. The Federal CIO Council Strategic Plan FY 2007 – 2009 identified the following goals and objectives.

Table 9 – Federal CIO Council Strategic Plan FY 2007-2009

Goals and Objectives
Goal 1: A cadre of highly capable IT professionals with the mission critical competencies needed to meet agency goals.
Objective 1: Improve IT workforce identification, assessment and reporting capabilities to support agency requirements and to respond to overall Federal IT workforce trends.
Objective 2: Ensure that robust Federal IT professional development programs are offered that reflect current initiatives and the Federal Government's strategic direction.
Objective 3: Identify opportunities to strengthen and leverage IT project management skills in the Federal Government.
Objective 4: Promote the development and implementation of competitive compensation and workforce flexibilities that attract and retain top-level IT talent within the Federal Government.
Goal 2: Information securely, rapidly, and reliably delivered to our stakeholders.
Objective 1: Develop policies and promulgate best practices to improve the integrity, delivery and usability of Federal Government information.
Objective 2: Implement the Data Reference Model (DRM) as a common framework for managing and sharing information across the Federal Government.
Objective 3: Establish and communicate best practices to improve the management of knowledge and the use of knowledge-based solutions in providing Government products and services to the public.
Goal 3: Interoperable IT solutions, identified and used efficiently and effectively across the Federal Government.
Objective 1: Integrate the FEA into the Federal budget process as a tool for evaluating IT investments to identify redundancies and opportunities for shared solutions.
Objective 2: Implement the SmartBuy project plan.
Objective 3: Collaborate with the LoBs to identify and establish shared service providers for select cross-agency business processes.
Objective 4: Accelerate the use of e-Gov solutions across all departments/agencies.
Objective 5: Adopt service-oriented design allowing integration of standard business service components across the Federal Government.
Objective 6: Encourage the adoption of standards-based best practices across government.
Objective 7: Incorporate best practices into the inherently governmental processes to be developed and deployed by agencies, LoBs, and e-Gov projects.
Objective 8: Provide the government's IT leaders with the knowledge and skills they need through best practices forums, CIO Bootcamps and an effective website and collaboration tool.
Objective 9: Continue to develop more efficient and effective methods for sharing information on emerging technologies.
Goal 4: An integrated, accessible Federal infrastructure enabling interoperability across Federal, state, tribal, and local governments, as well as partners in the commercial and academic sectors.
Objective 1: Accelerate the alignment of agency architectures with the Federal Enterprise Architecture (FEA).
Objective 2: Develop a strategy in coordination with state and local (major city) governments to promote the alignment of Federal, state, tribal, and local (major city) enterprise architectures.
Objective 3: Work closely with national and international governmental and private sector organizations to advance the use of common enterprise architecture standards.
Objective 4: Assist Federal agencies with the transition to incorporate Internet Protocol Version 6 (IPv6) into their networks.
Objective 5: Adopt service-oriented design, allowing integration of standard business service components across the Federal Government.
Objective 6: Establish a Government-wide repository of standardized business service components.

¹ Federal CIO Council Strategic Plan

Goals and Objectives**Objective 7:** Promote the accessibility of Federal Rehabilitation Act (Section 508) best practices and tools to all Federal agencies.

The HHS IRM community supports these goals and objectives through the IRM strategic planning and IRM investments.

2.2.5. Additional Core Requirements Drivers

The following three drivers represent additional areas currently regarded as priorities for the enterprise.

IRM Governance Enhancements

The IRM community within HHS manages a complex IRM environment where many OPDIVs, as well as HHS headquarters, have their own CIOs and IRM organizations. The HHS CIO maintains the enterprise-wide IRM perspective, while many of the OPDIVs also have CIOs or IRM leaders who are responsible for their OPDIV-specific IRM missions. The CIOC, which is comprised of the HHS CIO and the OPDIV CIOs, functions as the primary mechanism for coordination across the Department. The Department has an ongoing commitment and dedication to improving IRM management by encouraging increased collaboration and coordination among the Office of the Secretary (OS) and its OPDIVs to improve IRM services to stakeholders. Nevertheless, HHS as a Department is still facing many IRM management challenges within and outside of the Department.

One of the foremost intrinsic challenges facing HHS is the multifaceted nature of IRM requirements from the OPDIVs, which, in addition to shared goals, have their own individual, specific, and complex missions. These requirements often cannot be fulfilled by a comprehensive single-solution approach; rather, OPDIV-specific and customization approaches are needed. The autonomy to deploy IRM in each OPDIV can result in incompatible IRM platforms and unnecessary duplication of IRM functions, services, and infrastructure.

HHS recognizes that there are sets of IRM requirements (e.g., IRM infrastructure and services, IRM administration, management, and oversight functions) common to all OPDIVs that can be fulfilled with a federated shared services approach to increase Departmental effectiveness and efficiency. This shared services approach requires a highly organized and coordinated effort across all OPDIVs and the OS with the support of clear policies, streamlined processes, and shared services, as well as dedicated human resources. Such an effort should also include the full, iterative lifecycle of planning, implementation, maintenance, and evaluation.

To guide the HHS IRM strategic planning and promote innovative IRM investments, it is important to create and maintain the HHS EA that will be adopted Department-wide. The HHS EA should be compatible and compliant with the FEA and the FHA and in turn, OPDIV EAs should be compliant with it.

IRM plays a significant role in making HHS more efficient and effective as it continues to face health- and human services-related challenges. The Clinger-Cohen Act requires each Executive Agency to establish a process to select, manage, and evaluate the results of their IRM investments; report annually to Congress on progress made toward agency goals; and link IRM

performance measures to agency programs. HHS has implemented the CPIC procedures and an automated portfolio management tool to determine prioritization of IRM initiatives based on alignment with HHS, PMA, and other mandated goals and objectives. Further implementation and institutionalization of CPIC practices is required to advance the capability-maturity of CPIC at the Department.

The CPIC process also involves: evaluation of progress toward specified numerical targets and milestones; identification of the need for corrective action based on performance; and determination of the effectiveness of the project once implemented based on the original justifying criteria. Such an IRM investment performance management effort requires a comprehensive approach that combines processes and procedures, business rules, IRM systems, and human resources. The following are some key elements needed to be included in IRM performance management:

- Ensuring investments are aligned with Department goals and objectives prospectively instead of retrospectively. In other words, in the proposal phase, an IRM investment must explicitly support one or more defined IRM goals and objectives, where these IRM goals and objectives should be directly derived from Department goals and objectives.
- Establishing an HHS PRM with a core set of IRM investment measurement indicators that can be used by IRM investment owners and participants to quantify and evaluate IRM investment objectively.
- Developing an IRM performance measurement system to capture all investment-related data from investment planning to investment selecting, executing, managing, and evaluating. Such a system will provide investment data that not only can facilitate data analyses and reporting, but also decision-making at all levels (i.e., executive, managerial, and operational).

Electronic Health Records Initiative Preparation

The adoption of health IT (e.g., Electronic Health Records (EHR)) throughout the healthcare continuum in the private sector, especially among healthcare providers and organizations, is a priority of the President. Currently, the ONC in the OS is responsible for the Health IT Initiative (e.g., standards harmonization, vendor products certification, and nationwide health information network (NHIN) initiatives). Many experts anticipate health IT will transform the healthcare industry in the very near future. It is fundamental to have a full understanding of how the widespread adoption of health IT in the healthcare industry relates to HHS' own IRM adoption in terms of technology, infrastructure, and services; systems interoperability (both semantic and syntactic); standards; data sharing, privacy, and security; and stakeholders' roles and responsibilities. Equally important, HHS has to recognize how their policies, as well as business operations and processes with their business partners have been and will be impacted by the health IT adoption and to prepare and respond accordingly.

Emergent Situations and Preparedness

Finally, there are emergent situations (e.g., recent hurricane disasters, potential Avian flu pandemic) that require IRM to support effective health services solutions. IRM plays a critical role in connecting, coordinating, and managing knowledge and assets in emergency scenarios; hence, it is mission-critical to integrate such urgent needs into the HHS IRM Strategic Plan.

3. Enterprise Performance Lifecycle (EPLC)

Having examined the business needs by examining the *HHS Strategic Plan 2007-2012* and by classifying internal and external drivers, Section 4, Enterprise Performance Lifecycle (EPLC) describes the process by which appropriate IRM solutions are identified, planned, implemented, and managed.

3.1. EPLC Overview

3.1.1. Enterprise Architecture Conceptual View

In the most basic sense, strategic planning and performance management can be thought of as consisting of 3 elements: planning strategy, aligning resources, and carrying out/operating the plan. From an EA perspective, this fundamental perspective is captured in the “Architect, Invest, Implement” diagram below (Figure 4).

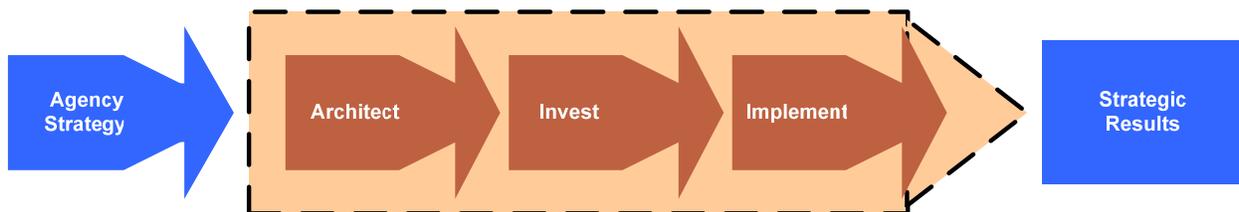


Figure 3 – Architect, Invest, Implement Concept

A Federal Agency carries out its strategy and achieves results by using EA as a tool to govern planning, investing, and implementation.

This simple view can be elaborated to include the core management activities supporting each stage from an EA perspective. The management processes shown in the following figure (Figure 5) show how EA interacts with CPIC and other IRM processes. The EA provides the comprehensive framework for planning by mapping the agency’s LOBs; for investing by providing criteria against which to judge CPIC’s Select, Control, and Evaluate processes; and finally, through the segment architecture and transition plan it provides the scope, targets, and guidance for implementing the strategy.

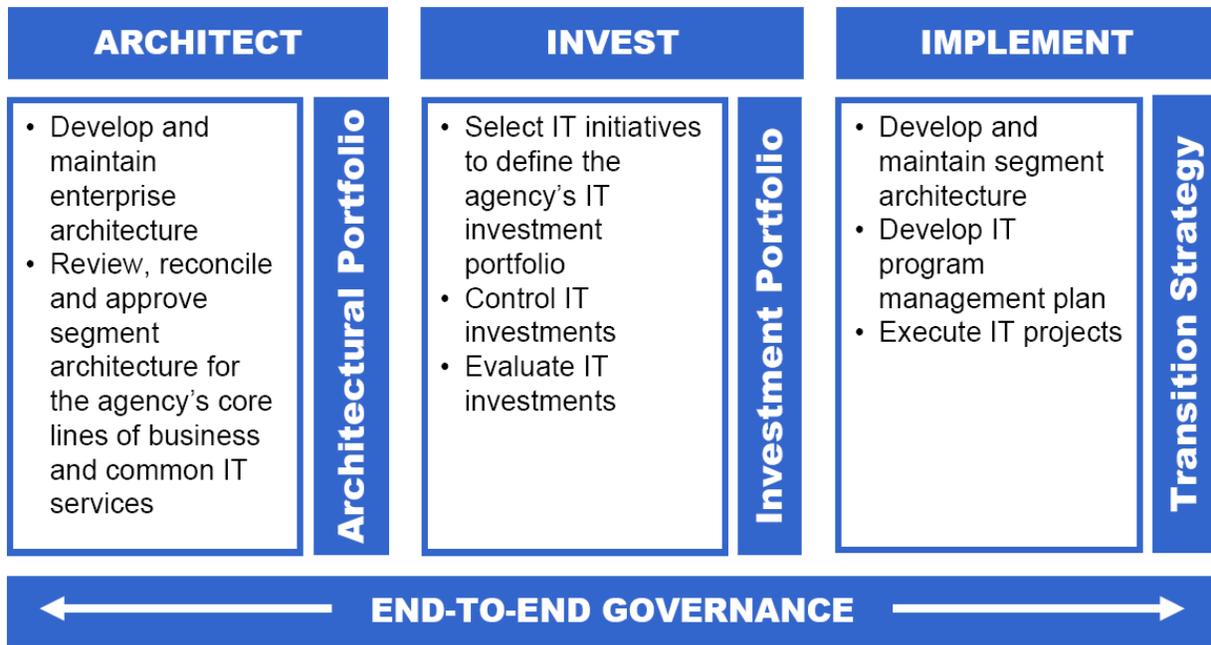


Figure 4 – Architect, Invest, Implement & Core Processes

The expanded conceptual “Architect, Invest, Implement” framework shown in Figure 5 is in turn expanded into identified business processes to illustrate implementation over the management lifecycle. The full lifecycle of the management activities is captured in the EPLC.

3.1.2. Enterprise Performance Lifecycle (EPLC) ¹

The EPLC is the means by which IRM requirements and solutions are identified, planned, implemented, and managed. EPLC aims to promote an effective, efficient process for developing and operating IRM initiatives and investments by defining standard lifecycle phases and deliverables for program and investment managers to use in planning and executing investments, and by defining review and approval processes for providing effective oversight.

The EPLC framework identifies “critical partners” who ensure effective, efficient management of IRM investments from an enterprise perspective. Critical partners include EA, capital planning and investment control (CPIC), security, business/program management staff, and others.

The EPLC is based on industry best practices designed to improve the performance and minimize the risk of IRM investments. An illustration of the high-level process is contained in Figure 6.

¹ Greater detail on the HHS EPLC framework can be found in HHS Office of the Chief Information Officer – Enterprise Architecture – Background Information HHS Enterprise Performance Life Cycle Management Concept (June 26, 2006)

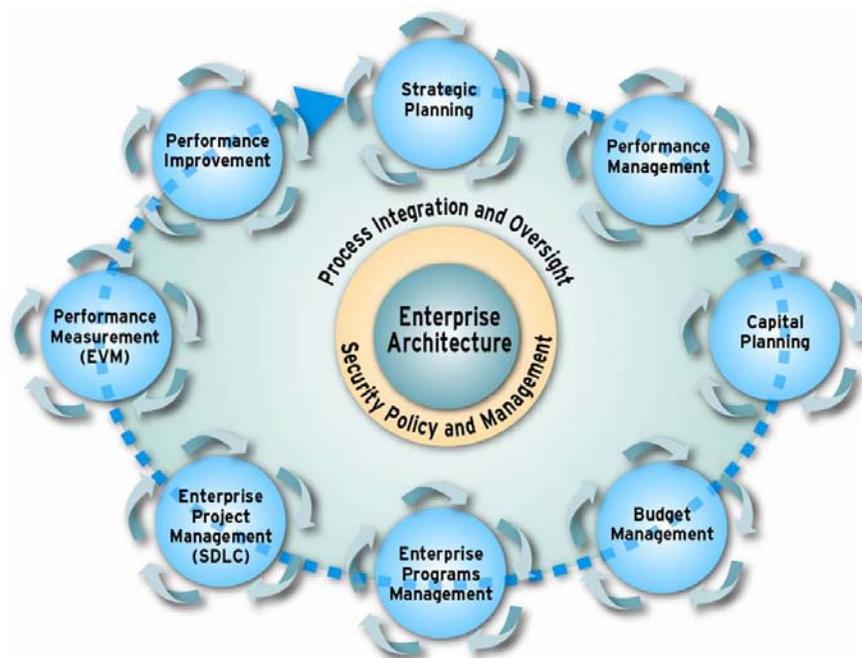


Figure 5 – EPLC Framework Overview

As the diagram shows, strategic planning and performance management are critical components in the framework. They represent the first two steps of the process that initiate the lifecycle and represent the benchmark against which performance improvement, the last step in the cycle, is judged. EA fits in the center of the diagram as it provides a tool to plan the strategy and implement, oversee and assess the plan.

This IRM Strategic Plan is focused on the strategic planning and performance elements of the EPLC and only provides a summary of the other elements from a high-level strategic perspective. The other phases, beginning with Capital Planning, represent the “tactical” or implementation planning phases and are more appropriately described in the Enterprise Transition Strategy, CPIC, Project Management, and other documentation. This division between plans is so as to maintain the more permanent character of the Strategic Plan distinct from the tactical planning and implementation which requires regular updating.

The EPLC diagram forms the basis for the following discussion of the elements of IRM planning, implementation and performance management as appropriate to the strategic view.

3.2. IRM Strategic Planning

3.2.1. Guiding Principles

The strategic planning process was developed with the following guiding principles in mind. The principles aim to ensure a process that is effectively institutionalized, inclusive in its development, maximally efficient, and timely in providing actionable information to management.

- **Integration:** Planning should be integrated with performance management and in turn leverage existing IRM processes rather than create new layers of activity.
- **Institutionalization:** Embedding the methodology is aided by integration, but also requires executive sponsorship and organizational champions.
- **Life-cycle Management:** Process should take into account the maturing projects and evolving performance measure relevance over the planning lifecycle. The methodology should be able to identify when goals and objectives have been achieved, not just when a project is completed.
- **Scalability:** The system must be able to accommodate new data and legislative requirements as they arise. Best practice literature recommends that a complex framework should be gradually built over time for the greatest impact. The full system should be capable of being implemented incrementally.
- **Data Reuse Enabled:** The methodology should ensure that the right information is collected at the right time and that it can be formatted and presented to meet multiple requirements.
- **Effective Stakeholder Input Enabled:** The concerns, priorities, and practices of all interested parties should be given ample scope for inclusion in the planning and performance management process.
- **Improve Understanding and Measurement of IRM Contribution:** The methodology needs to give insight through objectives and measures as to how IRM is leading to business and mission outcomes.
- **Improve Alignment of Goals:** Greater insight into the alignment of goals, objectives, and measures can help foster a culture of accountability and increase management's effectiveness. On a system level, a hierarchy of linked relationships is the organizational basis for an integrated and comprehensive tool.

3.2.2. Hierarchy and Alignment

The strategic planning guiding principles are embedded in a process that focuses on hierarchy and alignment. The hierarchy is comprised of drivers, mission statement, vision statement, goals, objectives, sub-objectives, and outcomes. The relationship is shown in Figure 7.

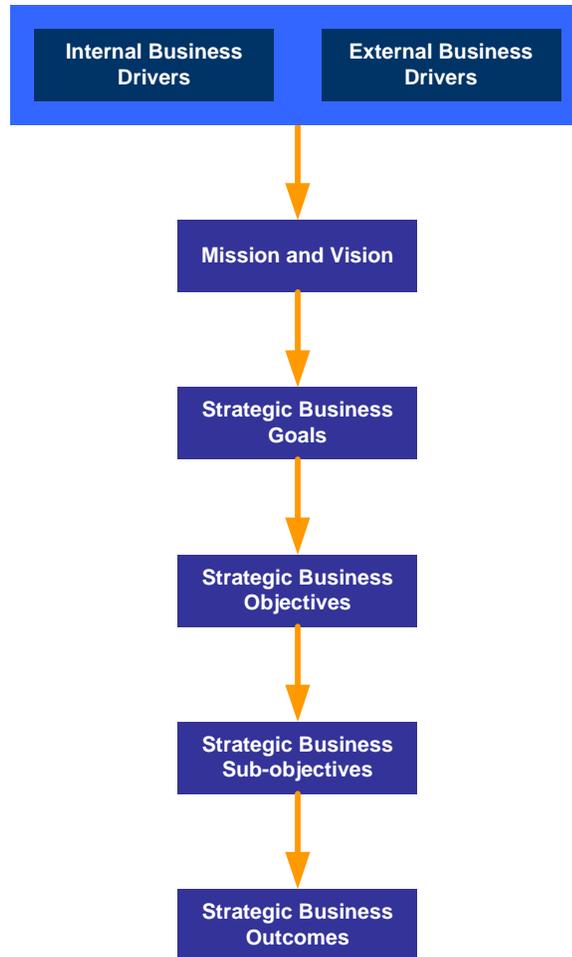


Figure 6 – Strategic Planning Hierarchy and Alignment

Drivers are the source of the business need and are divided between internal and external origin. Classic examples of external drivers would be legislative mandates or presidential directives. All elements of strategy, programs, projects, processes, and investments should be traceable back to original drivers.

An internal driver, likewise, would capture the secretary’s priorities or other department-driven priorities. In addition, internal drivers would also more generally seek to capture the origin of an internal strategy. An example of this within IRM would be Service-Oriented Architecture (SOA). SOA may not be mandated, but it serves as the key solution touching on many aspects of IT strategy and it leads to multiple areas of strategic activity. As such, it can be considered and function as a driver in the same way as a mandate.

Aligning programs, investments, processes or whatever meaningful strategic activities with an originating driver permits effective ongoing validation of the value of the activity and facilitates planning for successor strategy implementation. That is to say, an activity can be checked to see if it is still meaningful to the intent of the driver for it to be continued; when a driver is to be superseded, being able to identify activities attached to the current driver is useful for planning the scope of activities to support the new driver.

Mission and Vision Statements represent a succinct statement of the scope of the various drivers acting on the organization. Simply stated, the mission statement describes what the organization does and the vision statement describes how the mission will be ideally fulfilled. Both planning elements together represent a blueprint for action and improvement. The mission and vision statements will ideally be somewhat permanent so as to act most effectively as motivators and repositories of enterprise values.

Goals, Objectives, Sub-objectives represent the focus of strategy over the given planning period. The breakdown into three categories reflects the need to move from high-level descriptive goals, to activities that can actually be measured and verified.

Outcomes follow on from sub objectives and provide the most descriptive and verifiable element. Outcomes can also be considered success criteria at the strategic level. The outcomes are the means by which the particular strategy for a given period is determined to be successful or not in a binary yes/no fashion. An effective outcome should be S.M.A.R.T, which is specific, measurable, achievable, relevant, and time-delineated.

As stated, all strategic activity should be traceable back to original drivers, and conversely all strategy should be traceable to specifically stated outcomes that can be verified for success over a given period of time. This hierarchy and alignment is the basis for effective management whether “online” in an information system, or “offline” in a management or project plan.

3.2.3. IRM Strategic Planning Process

The HHS IRM strategic planning process, depicted in Figure 8 was applied in developing this update to the IRM Strategic Plan. The process consists of four key steps: understand the business, develop the strategy, implement the strategy, and evaluate performance.

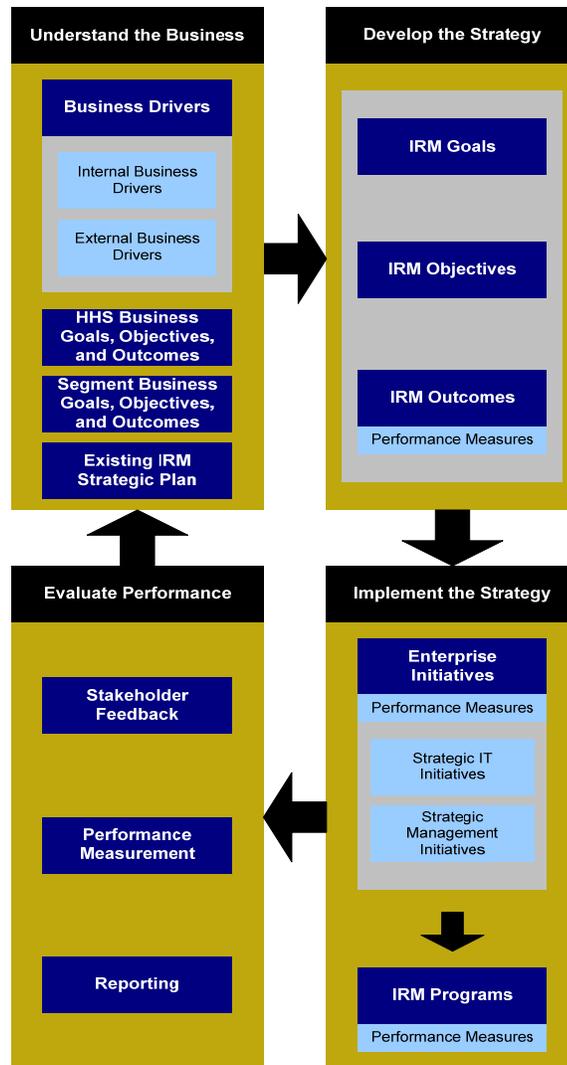


Figure 7 – A Business-Driven IRM Strategic Planning Process

The four steps depicted here represent the strategic abstraction of the broader EPLC diagram contained in Figure 6. The key elements that the IRM Strategic Plan should aim to record are the IRM Goals, Objectives, and Outcomes in the strategy box and all additional elements shown in light blue.

This process first began to be implemented in FY 2007. More work is required to fully capture the key elements shown in the diagram. The HHS Office of Enterprise Architecture will continue to improve this structured and collaborative strategic planning process, maintaining a focus on the integration of the IRM capabilities and needs of all EA segments to ensure an enterprise approach to IRM strategic planning.

3.2.4. HHS EA Business Area IRM Workshop

To implement the IRM strategic planning process, the HHS Office of Enterprise Architecture conducted workshops (one workshop per business area) with business area SMEs from across

OPDIVs and STAFFDIVs. During these workshops, participants followed the structured process to:

- Establish the business area mission and vision statements.
- Align business area mission and vision with the HHS Strategic Plan.
- Identify business area-specific strategic business goals, objectives, and outcomes that are not covered by the HHS Strategic Plan.
- Identify the IRM issues, needs, and requirements for each business area.
- Develop the IRM strategic direction for both HHS and each business area, including the IRM mission, vision, goals, objectives, and outcomes.

This year's IRM strategic planning effort focused on achieving the following key desired outcomes:

1. Promote collaboration across the Department and build upon previous strategic planning efforts.
2. Integrate the HHS Business Area Architecture into the IRM strategic planning.
3. Align explicitly the IRM strategies with the HHS Strategic Plan, and align the enterprise initiatives with both the IRM strategies and the HHS Strategic Plan.
4. Develop the HHS IRM goals, objectives, and outcomes for FY 2007- FY2012.
5. Lay a foundation for institutionalizing this IRM strategic planning program across the Department.

In achieving these goals, the workshops were implementing the first two steps of the EPLC and providing strategic guidance to the other phases.

3.3. IRM Performance Management

The need to justify funding to maintain existing investments or to implement new information technology initiatives has driven an expanded demand for performance reporting, analysis and management capability throughout the Federal Government.

The strategic vision of better performance for IRM investments is being achieved through the coordinated focus of legislation and management guidance in three principal areas: performance, budgeting, and EA.

The HHS OCIO is responding to this demand for expanded reporting and improved performance management, by seeking an integrated solution aligning strategic and tactical planning with performance measurement. The future vision is of an integrated planning and performance management that combines a framework (Performance Architecture Framework), processes (EPLC of which the CPIC process is core), and a centralized performance information management system.

This integrated solution crosses the divide between strategic and tactical planning. Section 4.3 discusses performance from the strategic perspective, Section 4.4 gives a brief overview of the other phases of the EPLC.

3.3.1. Integrated Planning and Performance Management: Concept and Benefits

The integration of strategic planning and performance management aims to achieve a shift in the IRM paradigm away from a bottom-up alignment with individual investment control capability to a top-down portfolio approach. In the current paradigm, strategic planning and investment management are separate activities. Prospective investments align themselves in a bottom-up fashion with strategic goals and objectives rather than being derived from strategic business goals and objectives top-down, tend to be controlled as individual projects and investments. In the new paradigm, planning and performance management are linked and performance is to be managed on an aggregated “portfolio” basis using HHS’s EA business areas within the EPLC structure and processes. From an internal perspective, the integrated approach will permit senior management an up-to-date and ongoing top-to-bottom view of performance aligned by strategy and business architecture. From an external reporting perspective, the multiple requests for information and reporting can be handled centrally without duplication and redundancy. In addition, this methodology promotes sharing and reusing performance data once they are collected in a centralized database.

As previously stated, the driver-goal-objective-outcome alignment hierarchy ensures that performance measures at all levels are always traceable back to HHS strategic goals and objectives. This alignment is essential to managing in the aggregate and to being able to add, update, or replace goals and objectives as necessary in the performance lifecycle. The alignment hierarchy also allows flexibility by allowing high-level goals to be stated in general terms and to remain relatively permanent, helping organizational focus. The goals remain linked to the more changeable sub-objectives, outcomes, and measures where the work of evaluating performance is done.

In addition to their linkage via the alignment hierarchy, performance measures are also organized according to HHS Performance Reference Model (PRM) which is derived from the FEA PRM. Figure 9 shows the HHS PRM. The PRM concept of the “line-of-sight” is the core link between outcomes and measures. Establishing a line-of-sight develops performance measures that can explain how an outcome can be achieved.

In the future the HHS PRM will also maintain libraries of standard performance measures mapped to the PRM. The rationale for this is that many IRM operations are standard, so that projects should use the same measures which will simplify management and make performance more transparent both within and external to the Department.

A taxonomy model of performance measures is shown in Figure 10. Performance measures can be divided into three tiers - executive view measures, managerial view measures, and operational view measures – reflecting the different communities of interest for reporting and analytics.

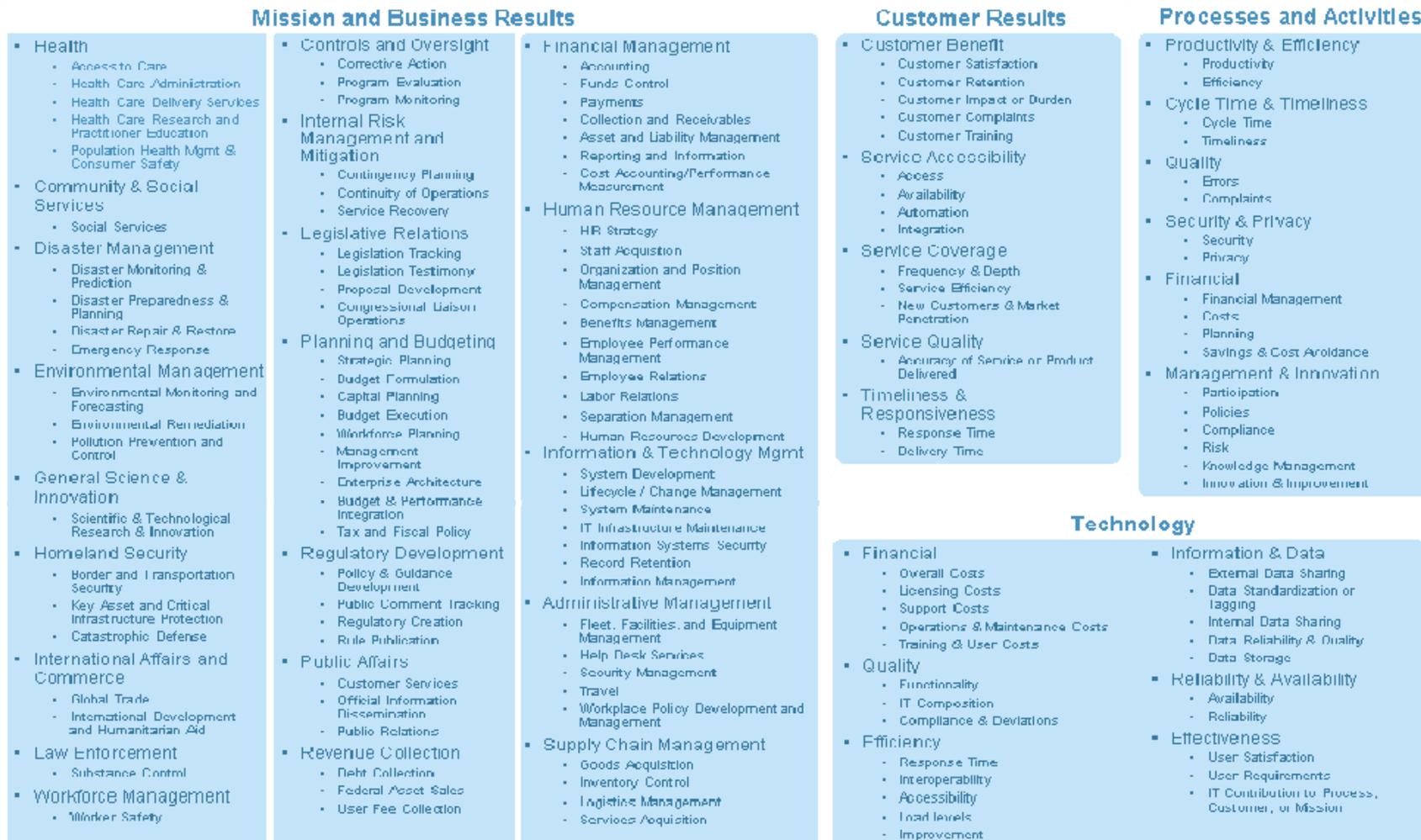


Figure 8 – HHS Performance Reference Model

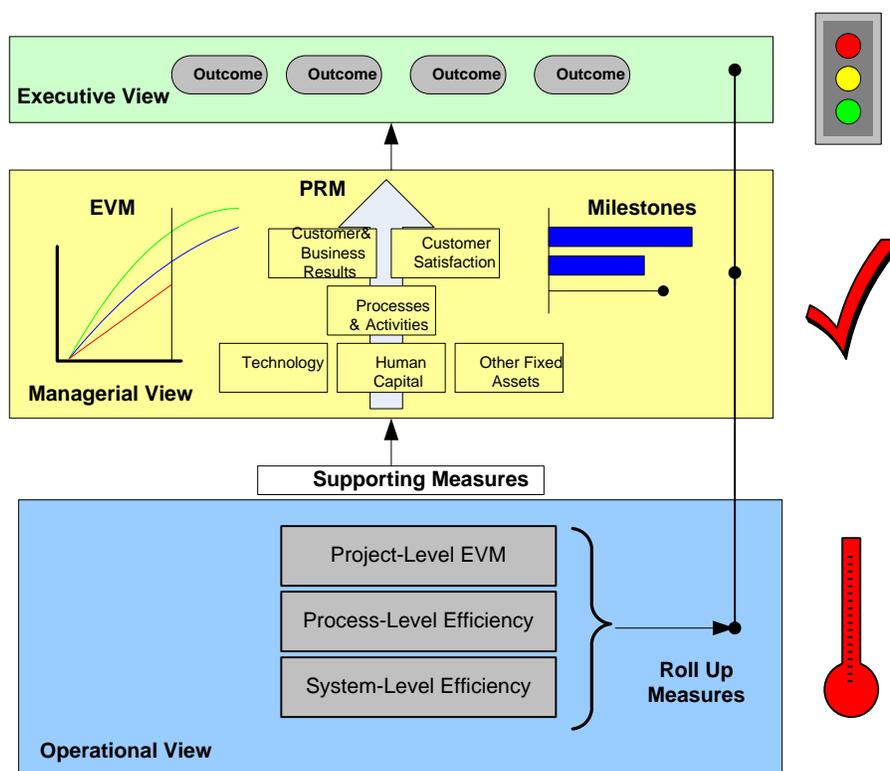


Figure 9 – Performance Measure Types by Tier

Executive measures, as indicated by the traffic light icon, measure the successful, or trending successful (or not) outcome of strategic objectives. Were the objectives achieved – yes or no. As stated above the outcome measures will ideally be comprehensive, *S.M.A.R.T.* success criteria. These measures will be of interest to executives responsible for the strategic direction of the department.

Managerial measures, as indicated by the check mark icon, measure the progress towards the outcomes set at the strategic level. As the second box shows, these measures can be part of the performance reference model “line-of-sight,” as well as EV or other milestone measures. These measures will be of interest to program and investment managers tasked with implementing strategic initiatives.

Operational measures, as indicated by the thermometer icon measure the day-to-day performance of critical systems, processes and projects. As the third box shows, these measures typically will report on system and process efficiency as well as project level EV. These measures can also be rolled up and aggregated to report to higher levels. For day-to-day purposes they will primarily be of interest to project managers and business process/systems owners.

A further critical element around performance management is institutional support. The HHS EA business areas have SMEs assigned who work with the EA PMO to carry out IRM strategic planning workshops and tactical and performance management planning. Institutionalization will also be facilitated by the planned development and implementation of a performance information management system comprising a relational database and dashboard capability. The ability to

capture, process, store, analyze, and disseminate performance data efficiently will greatly enhance the effectiveness of the institutionalization of the processes.

3.4. EPLC Tactical Phases

The phases in the EPLC beyond Performance Management implement the IRM requirements identified in the strategic planning phase. EPLC integrates the CPIC processes of *Select*, *Control*, and *Evaluate* to manage new and existing investments. SDLC project management and Enterprise Program management aim to provide effective management and adherence to standards/best practice through rigorous project management methodology and Earned Value measurement techniques. Enhanced alignment, screening, performance management and measurement and effective Control and Evaluate CPIC processes will greatly improve Budget Management which depends on general analytical and prioritization capability to be effective.

The implementation of EPLC aims to leverage the significant advances achieved by the HHS OCIO in performance analysis and reporting in recent years, particularly in connection with CPIC and project management. The HHS OCIO implemented an automated portfolio management tool to capitalize upon its analytical capabilities in evaluating IT investments. In addition, the HHS OCIO is currently implementing an enhanced Earned Value Management (EVM) capability based on improved tool support and re-engineered policies and procedures. These initiatives form a critical building block on which to implement a comprehensive integrated system. To underline its support of improved IRM management capabilities at HHS, the OCIO is pursuing Stage 3 of the GAO information technology investment management (ITIM) capability-maturity model which assesses the capability-maturity of CPIC processes. The integrated EPLC planning implementation and performance management approach described above will strongly support the ITIM initiative as the capability-maturity model from Stage 3 and onward emphasizes the increasing ability to manage investments and strategy as a portfolio.

The following section and diagrams show how the implementation (transitional) phases are planned and integrated into the strategic planning phase. This approach anticipates the development of an information management system to improve management capabilities.

3.4.1. Integrated Planning, Budgeting, and Performance Management System Overview

A high-level view of the system is shown in Figure 11. The diagram shows the three elements, strategic planning, transition planning, and performance management planning and their integration with the CPIC process. The process is thus vertically integrated – linking successive planning stages to the performance management stage – and horizontally integrated with the CPIC process. This horizontal linkage is important as it avoids extra process layers and activities in performance management – the planning phases and performance management products and outputs complement, facilitate and enhance CPIC. In addition, while CPIC manages at the investment level (blue square), the integrated process can extend down to the project level as well as programs, business processes, and even applications. Projects are often combined to form investments for reporting purposes.

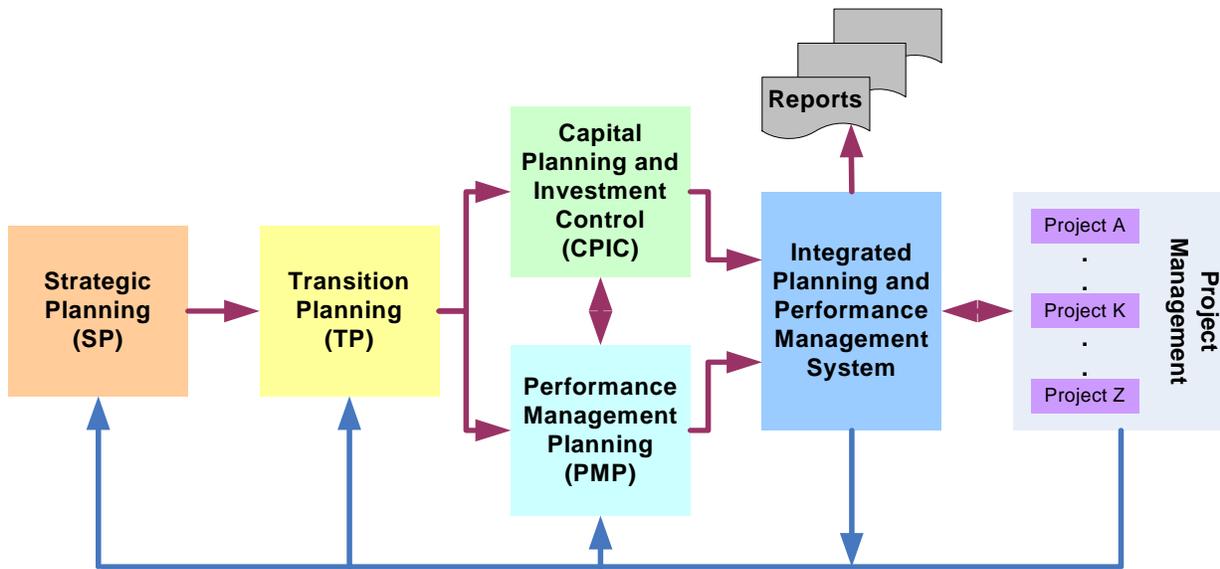


Figure 10 – Integrated Planning and Performance Management Concept

While an Information Management System will be important to the effective management of performance, it is important to emphasize how the EPLC process enables effective budget planning by bringing together communities of interest principally via the Segment Architecture to identify investment and initiative needs. The HHS EA Business Area IRM Workshops are an example of this. The following diagram represents the information/feedback flow from the segments to the CPIC/Budget governance structures. The critical partners refer data-justified IRM needs back ultimately to the decision-makers at the Secretary’s Budget Council. A key focus of implementation of the EPLC is to make this a well established, data-driven information conduit where in the past the connection between executive decision making bodies and other interested parties was more *ad hoc* and anecdotal in terms of justification.

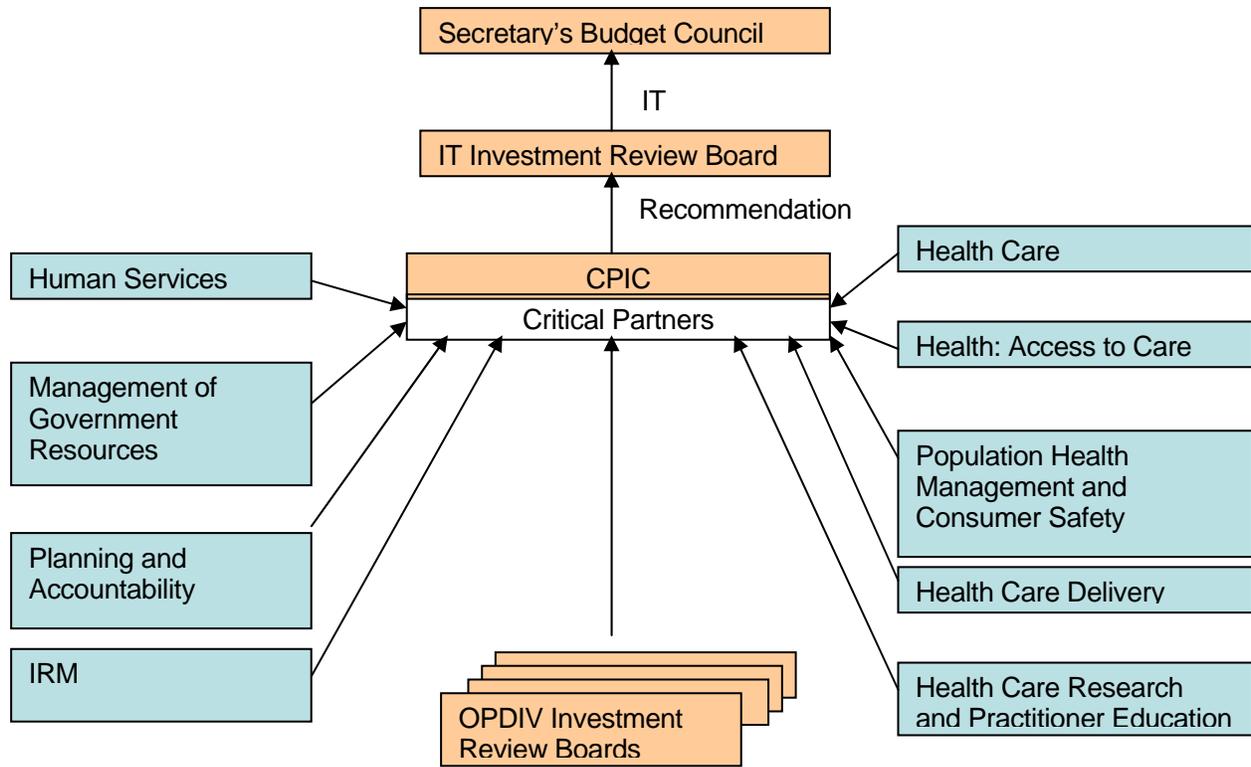


Figure 11 – Business Area IRM Requirements Feedback

4. IRM STRATEGIC PLANNING RESULTS

4.1. IRM Mission and Vision Statements

The preceding sections, particularly the environmental analysis and the Departmental strategic business direction, establish the context in which the HHS IRM community performs and functions. This section builds on that information and outlines clear, comprehensive, and enterprise-wide IRM strategies to meet their business obligations.

4.1.1. IRM Mission

The following HHS IRM mission statement describes how the IRM community supports fulfillment of the overarching HHS mission of enhancing the health and well being of Americans.

HHS IRM Mission
Efficiently and effectively manage information and information technology resources.

4.1.2. IRM Vision

The IRM vision builds upon the IRM mission which identifies “what we do now” and creates the “where we need to be” in order to achieve the HHS mission. The IRM vision is:

HHS IRM Vision
Comprehensive information management solutions are provided to match the critical needs of HHS and its stakeholders.

The IRM vision moves away from a focus on technology (IT) to emphasize the use of information technology embedded in adapted business processes to meet the business requirements of stakeholders.

4.2. Business Area Common Themes

During the nine workshops, participants identified IRM issues, needs, and requirements that are critical to their respective business areas. The common themes of these requirements are shown in the following table.

Table 10 – A Set of Common IRM Themes Across Business Areas

Common IRM Themes
Data/Information Dissemination
Quality of Data (i.e., accuracy, authoritativeness, completeness, integration)
Provision of Impact Analysis (e.g., baseline analysis, trend analysis, etc.)
Disparity of HHS Security Controls and Standards (e.g., role-based access, data confidentiality and privacy)
Non Alignment of OPDIV and Segment Goals and Objectives
Questionable Segment Performance Measurements
Data Standardization/Harmonization
Data Model and Meta-Data
Decision Support Capability
Data Sharing/Collaboration
Adoption and Coordination of SOA
Web Portal (e.g., education, training, one-stop information stopping, conducting business)
Telemedicine and Telemedicine Infrastructure
HHS Best Practices in Information Management (e.g., ITIL)
Software Development Best Practices (e.g., CMMI)
Business Intelligence/Data Mining/Texting Mining

These themes can in turn be grouped into 8 actionable areas of need:

1. Improved data quality, data authoritative source, and data standardization. The general consensus was that the EA business area structure and segment mapping would be useful in establishing data management priorities.
2. Improved decision support including business intelligence, impact analysis, and segment collaborative analysis should be investigated and developed.
3. Security should be more flexible to actual needs/roles.
4. Performance measures and HHS strategic goals/objectives alignment and HHS business area and segment boundary/definition needs to be improved.
5. Department should provide strategies, guidance, and standards for implementing a SOA.
6. Information dissemination (portals especially) should be improved and coordinated across the Department.
7. A specific need for developing telemedicine was brought up by Indian Health Service (IHS), but it was agreed that for other areas with difficult access (e.g. rural area) this would be an important initiative.
8. Best practices should be identified and sponsored department-wide. Information Technology Infrastructure Library (ITIL) and Capability Maturity Model Integration (CMMI) for IRM management and software development were mentioned specifically.

4.3. IRM Strategic Goals, Objectives and Performance Measures

Having defined the high-level IRM Mission (“what we do now”) and the IRM Vision (“where we need to be”) and identified areas of need, HHS identified six goals, twenty six associated objectives, and a set of strategic performance measures (as shown in Table 4), which are designed to help the HHS IRM community fulfill its IRM mission and achieve its IRM vision.

Table 11 – HHS IRM Strategic Goals, Objectives, and Performance Measures

IRM Goals and Objectives	Strategic Performance Measure
Goal 1: Provide a secure and trusted IT environment.	
Objective 1.1: Enhance confidentiality, integrity, and availability of IT resources.	<ul style="list-style-type: none"> • Percentage (%) of systems that are compliant with the baseline security configuration – 95% • Percentage (%) of systems compliant with IT security standards – 100%
Objective 1.2: Protect IT assets and resources from unauthorized access or misuse.	<ul style="list-style-type: none"> • Percentage (%) of critical IT resources in adherence with FISMA standards – 100% • Percentage (%) of critical IT resources that comply with Departmental IT security standards and policies
Objective 1.3: Enhance security awareness and role-based training department-wide, inclusive of privacy.	<ul style="list-style-type: none"> • Percentage (%) of HHS employees who have received IT security awareness communications or training during the year – 100% • Percentage (%) of information system security personnel that have received security training – 100%
Objective 1.4: Ensure security is incorporated into the lifecycle of every IRM asset.	TBD
Goal 2: : Enhance the quality, availability, sharing, and delivery of HHS information and services to citizens, employees, businesses, and government	
Objective 2.1 Provide an intuitive web-presence to quickly and reliably deliver information and customer services internally and externally.	<ul style="list-style-type: none"> • Percentage of customers satisfied with the speed, reliability, convenience, and usefulness of the centralized information portal, as reported by an annual customer survey – 90% • Percentage of employees satisfied with the availability of collaboration and knowledge-sharing tools and mechanisms, as reported by an annual employee survey
Objective 2.2: Leverage web services to conduct business securely with customers and stakeholders.	TBD
Objective 2.3: Ensure the availability and dissemination of information in preparation of or in response to local and national emergencies, significant business disruptions, or disaster Interruption.	<ul style="list-style-type: none"> • Percentage of critical information resources with backup components and contingency plans -99%
Objective 2.4: Establish COOP planning, testing, and training.	<ul style="list-style-type: none"> • Percentage (%) of systems successfully addressed in the testing of the contingency plan – 100% • Percentage (%) of high-risk vulnerabilities remediate within organization-specified timeframe – 90%
Objective 2.5: Provide technologies enabling both HHS internal stakeholders (e.g., employees, OPDIVs, STAFFDIVs) and external stakeholders (e.g., States, Municipalities, vendors) to work collaboratively and share knowledge.	TBD

IRM Goals and Objectives	Strategic Performance Measure
Goal 3: Implement a robust, optimized, enterprise information technology infrastructure and common administrative systems that will foster innovation and collaboration.	
Objective 3.1: Establish a basis to achieve further interoperability and communication among operating divisions through an enterprise approach.	<ul style="list-style-type: none"> • Percentage (%) of desktop PC standardized – 97% • Percentage (%) of HHS email servers are migrated to or integrated with the EES – 100% • Percentage (%) of users will be allowed access to a unified HHS-wide Unified calendaring system – 100%
Objective 3.2: Establish a capital asset replacement program.	<ul style="list-style-type: none"> • Percentage (%) of PC/laptop hardware fix or replacement within service level agreements – 90%
Objective 3.3: Ensure an IT infrastructure foundation adequate to support new mandates and major initiatives.	<ul style="list-style-type: none"> • Improve reliability of critical IT Infrastructure – 99.5%
Objective 3.4: Improve fee-for-service (FFS) models to ensure full cost recovery (annual, capital and refresh).	TBD
Objective 3.5: Evolve/mature contingency planning for IT infrastructure.	<ul style="list-style-type: none"> • Percentage (%) of systems successfully addressed in the testing of the contingency plan – 100% • Percentage (%) of high-risk vulnerabilities remediate within organization-specified timeframe – 90%
Objective 3.6: Maximize the value of technical investments.	<ul style="list-style-type: none"> • Percentage (%) of systems rollout on time, on budget – 90% • Maintain the reliability of HHS IT Systems – 99.8% • Maintain percentage availability of the local/wide area networks – 99.8% • Monthly average of critical applications availability – 99.8% • Percentage (%) of infrastructure service requests resolved within service level agreements – 95%
Goal 4: Enable and improve the integration and quality of health and human services information.	
Objective 4.1: Improve health outcomes by developing and using standard data, processes, and vocabularies.	TBD
<p>Objective 4.2: Integrate critical cross-segment health and human services information across HHS, private industry, first responders, other health care providers and the public through implementation of the following steps:</p> <ul style="list-style-type: none"> ⇒ Data Harmonization – Semantic Web Structure ⇒ Ontology Development and Adoption – Knowledge, Framework ⇒ Business/Administrative Data Sharing ⇒ Segment Data Integration ⇒ Public Health Data Governance ⇒ Data Quality 	TBD
Objective 4.3: Develop and/or adopt public health ontologies.	TBD
Objective 4.4: Improve data quality through an effective governance architecture and data management/stewardship procedures.	TBD
Goal 5: Achieve Excellence in IRM/IT Governance and Management Practices Identified	
Objective 5.1: Strengthen HHS enterprise-wide processes for collaborative IT strategic planning, capital planning, and investment control.	TBD

IRM Goals and Objectives	Strategic Performance Measure
Objective 5.2: Apply sound standards-based lifecycle, project management and performance measurement processes to IT projects.	TBD
Objective 5.3: Develop and implement an IT human capital plan to guide the recruitment, retention, and skill development of staff.	TBD
Objective 5.4: Ensure dedicated funding streams for IS/IT management improvement and innovation.	TBD
Objective 5.5: Adopt comprehensive best practices-based IT management and governance.	TBD
Objective 5.6: Enhance the efficiency and effectiveness of competitive sourcing for IT services.	TBD
Goal 6: Implement SOA at HHS to promote interoperability	
Objective 6.1: Develop HHS Enterprise SOA guidance outlining strategy, standards, and best practices.	TBD

Note: HHS OCIO is currently working to develop additional performance measures and to implement and institutionalize the performance management process. HHS OCIO will update the IRM strategic plan with additional performance information as it becomes available.

4.4. Key HHS IRM Initiatives Supporting Business Requirements

Based on the combined output of the workshops, the following ten IRM priority areas have been identified. It is understood that these prioritized areas could change due to changes in HHS mission and vision, priorities, and/or emerging situations. This list of IRM priorities will be validated and updated in the next iteration of the plan.

1. E-Gov Initiatives
2. Federal Transition Framework Initiatives
3. HHS EA Program
4. IRM Security
5. Optimization of IRM shared infrastructure
6. ITIM and Performance Management
7. Federated SOA infrastructure
8. Health IT
9. Communications and Collaboration

The following summaries reflect current status and/or future plans.

1. E-Gov Initiatives

The Department will continue its investment in e-Gov initiatives to deliver services and information to internal as well as external employees, consumers, and business partners. Key to this strategy is the use of standards-based Web Services.

Web-based technologies are recognized as a vital and effective way for organizations to communicate both internally and externally. HHS has taken steps to leverage web-based technologies as it seeks to better serve the US citizenry and improve communications within the agency.

There are three categories of web-based technologies HHS uses to achieve these objectives: Internet Web sites, an Intranet Web site, and an internal HHS Web portal.

HHS Internet and intranet Web sites include the HHS.gov site as well as many other HHS Operating Division sites. These sites are used to fulfill the objectives of the E-Government Act of 2002 by providing timely and effective communications that are citizen centric. The HHS.gov Web site is comprised of individually coded HyperText Markup Language (HTML) pages, although there is a plan to implement a Content Management Solution for the site which will make site modification and maintenance more streamlined and convenient for contributors.

Additionally, a planned redesign of the OCIO Web site for HHS.gov will offer better organization and more timely delivery of information about the OCIO office, its mission, accomplishments and strategic objectives.

The HHS Intranet Web site is available to HHS employees with internal access to the HHS network. The Intranet site serves as an internal communication tool for agency information. The HHS Web Management Team, guided by the results of usability testing, card sorting, and interviews with HHS employees, continues to make progress on redesigning the HHS Intranet. The objective of the redesign is to streamline the presentation of content and increase its relevancy and usefulness for HHS employees.

The HHS Web portal is being developed with the use of a comprehensive community development and management application. The portal provides a collaboration tool where communities of employees can form around projects within the Department. Currently, the HHS Web portal is being used extensively by the HHSIdentity Project which has developed sub-communities to assist in the sharing of information among employees in the agency working on the initiative.

Finally, the Department will leverage standards-based Web Services infrastructure (common services). Moreover, the Department will migrate toward SOA-based common services for future e-Gov initiatives and for integration of legacy technology and applications with new Web-Based applications to facilitate information interoperability, and to expose standards-based SOA/Web servers to consumers, business partners, and other users of e-Gov systems and applications.

2. Federal Transition Framework (FTF)

The FTF Cross Agency Initiatives are key drivers of IRM strategic planning for the Department and support the following goals:

- Increase agency awareness and participation in cross-agency initiatives.
- Increase the alignment of agency enterprise architecture with federal IT policy decisions or other forms of official guidance.
- Increase sharing and reuse of common cross-agency business processes, service components and technology standards.
- Increase collaboration through agency participation in cross-agency communities of practice.

The 18 Cross Agency Initiatives published by OMB in December 2006 are as follows:

- Budget Formulation and Execution Line of Business
- Case Management Line of Business
- Disaster Management
- E-Authentication
- E-Travel
- Federal Health Architecture
- Financial Management Line of Business
- Geospatial Line of Business
- Geospatial One-Stop
- Grants Management Line of Business
- Grants.gov
- Homeland Security Presidential Directive 12
- Human Resources Line of Business
- Information Sharing Environment
- Information Systems Security Line of Business
- Integrated Acquisition Environment
- Internet Protocol Version 6
- IT Infrastructure Optimization Line of Business

As the HHS response and planning matures more detail will be included in the Strategic and Transition plans.

3. HHS EA Program

The HHS EA Program team is actively engaged in developing the Segment Architecture and institutionalizing architectural methods, processes and governance. Key activities include:

- Development and Deployment of HHS EA compliant with FEA and FHA and reconciled with OPDIV EAs
- Development of Segment Architecture: Baseline and Target Architectures
- Development of Performance Architecture
- Integration of EA within the CPIC process throughout HHS and the OPDIVs
- Assistance with institutionalization of EA Governance Bodies

A key identified need is for an IRM tool supporting performance management, reporting, and business intelligence needs. A business case has been developed and will be submitted in the FY 2007 budget cycle.

4. IRM Security

Secure One HHS – Emphasis on IT Security Department-Wide

Based on GAO best practice guidance, HHS IG and OPDIV reviews, HHS has set up an overarching IRM Security Program called Secure One HHS. The program's goal is to provide support and guidance, address OPDIV security needs and concerns, and meet HHS security responsibilities. The Secure One HHS mission is to "foster an enterprise-wide secure and trusted IT environment in support of HHS' commitment to improve the health, safety, privacy, and well-being of the American people."

To meet the aggressive demands of an enterprise-wide HHS IRM Security Program, strong governance with clearly defined roles, responsibilities, and security expertise is required. By establishing the program at the headquarters level, HHS will achieve a consistent IRM security baseline across the OPDIVs by supporting universal security requirements. The Secure One program will then be driven by close coordination and collaboration with each OPDIV to ensure that their needs and expectations are identified and addressed. OPDIVs will then be responsible for custom implementation at their level, based on each OPDIV's unique needs and goals.

Department-level initiatives under Secure One HHS will seek to leverage externally mandated government security initiatives and requirements to enable more consistent and effective security controls across HHS. For example, as part of the OMB-mandated transition to Internet Protocol version 6 (IPv6) within government IRM infrastructure, the IP Security (IPSec) capability of the IPv6 protocol will become available for use to promote data confidentiality and integrity. The detailed network infrastructure analysis required to comply with IPv6 implementation milestones has provided information to HHS that will support improvements in network security. In addition, many of the technical measures to be implemented to support physical security and personal identity verification in compliance with HSPD-12 and FIPS 201 offer the potential for use to support better logical access and other information security measures. Core supporting services for HSPD 12, such as a public key infrastructure (PKI) enable strong authentication, digital signatures, and standardized identity management, authentication and authorization services. Successful management of these encryption capabilities will entail the development of policies and mechanisms for cryptographic key management and key recovery.

Configuration Management: Secure One HHS has incorporated security control baselines consistent with NIST SP800-53A and continues to expand the use of explicitly prescribed standard configurations for servers and other computing devices. To ensure data integrity as well as availability, configuration management of all hardware and software components will be used. HHS is evaluating broader use of host-based intrusion detection technologies (e.g., TripWire) to monitor systems hardware for changes to baseline configurations.

5. Optimizing IRM Shared Infrastructure

As cited in the GAO report number 05-308 *Federal Agencies Face Challenges in Implementing Initiatives to Improve Public Health Infrastructure*, challenges facing HHS include:

- Integrating current initiatives into a national health IRM strategy and federal architecture to reduce the risk of duplicative efforts;
- Developing and adopting consistent standards to encourage interoperability;
- Coordinating initiatives with states and local agencies to improve the public health infrastructure; and
- Overcoming federal IRM weaknesses to improve progress on IRM Initiatives.

Infrastructure and Common Services: A key strategy for cost effectiveness is the sharing and reuse of common, standards-based IRM infrastructure. In the broadest sense, infrastructure can be viewed as a sharable IRM investment that can be leveraged and standardized across an enterprise to prevent duplicate efforts, to leverage common investments, to standardize training and operational processes, and to lower IRM cost as a benefit.

Standards-based, common networks (i.e., local area, wide area) such as HHSNet are a common and simple application of these principles, and opportunities for cost avoidance exist in virtually every layer of the Open Systems Interconnect (OSI) model, from physical to shared data and application services. Such opportunities include the potential for improved quality of service (QoS) at lower cost through sharing services such as:

- Physical: Networks, servers, help desks and support infrastructure
- Operating System Services: Sharing common operating environments and services (e.g. file, print, and directory services)
- Infrastructure Services: Leveraging services such as Public Key Infrastructure (PKI), Single-Sign-On, Enterprise Service Bus, etc.
- Common Application Service: Workflow, Master Subject Index, Lexical/Semantic Services, Data Services, Messaging Services, Data Transformation, etc.

A key initiative for HHS within the FY 2007-2012 timeframe will be a focus on IRM optimization, implementing and sharing common services, and leveraging these tools, infrastructure, and processes to improve integration and interoperability across the Department— at a lower cost.

HHSIdentity: This initiative will integrate and implement key identity management and eAuthentication services across the Department in compliance with HSPD 12 and FIPS 201. These common security, identification, and authentication services will be integrated across the enterprise in support of enterprise initiatives such as Enterprise e-Mail, and will be leveraged by a variety of HHS systems and applications for authentication. This initiative will include the integration and implementation of key identified services including single sign-on, enterprise directory services, public key infrastructure, and biometrics services to meet defined operational objectives and functional requirements. Another part of the strategy will be to leverage a Federated SOA approach in the delivery of these services, consistent with our Optimization of IRM Shared Services strategy described above.

Some of the specific areas to be addressed in meeting HSPD 12 requirements include use of smartcard technology to store digital certificates and enable strong authentication consistent with security control baseline requirements for high-sensitivity systems and government-wide guidance such as OMB Memorandum 06-16. The scope of the HHSIdentity initiative includes proofing of user identity in accordance with federal guidelines, centralized user provisioning, and technical implementation of secure encryption keys and digital signatures within a public key infrastructure (PKI). Appropriate policy will be developed to govern the implementation and use of these security technologies. Other policy and possible identification of additional technologies will be required for external personnel and others who will not be issued smart cards.

6. ITIM and Performance Management

The ability to select, control, and manage IRM investments effectively is a core requirement for HHS OCIO management. To maintain the Department's commitment to achieving the goal of Excellence in IRM Management Practices, initiatives to develop an integrated performance management system and to improve the Capability-Maturity of the Department on the GAO ITIM framework are planned for the coming period.

The key requirements for the planned system are that it integrate the various levels of IRM and performance reporting requirements throughout the Department, provide timely and actionable information through an automated system, and standardize metrics and clarify accountability through rigorous goal, objective and initiative alignment. The performance management system is designed to function efficiently with existing CPIC and strategic planning processes, but will nevertheless represent a considerable organizational challenge. Establishing effective performance measures will, however, have a major impact on all future initiatives.

The GAO ITIM Capability-Maturity Model measures an organization's ability to manage IRM investments so that they contribute effectively to mission and business priorities. The Model posits five stages of maturity marking increasing levels of sophistication in selecting, controlling and evaluating investments from a portfolio perspective. Various GAO reports have assessed the Department or specific OPDIVs as having achieved various elements of Stages 2 and 3, with Stage 3 being the stage at which the organization is beginning to manage investments on an integrated portfolio basis. As a result, Executive Management has decided to set the goal of the OCIO and all OPDIVs progressing through Stage 2 to achieve ITIM Stage 3 by Summer 2007. The OCIO will work closely with OPDIVs to develop policy, ensure policies are effectively institutionalized, and foster collaboration and the use of best and common practices. Taken

together with the integrated performance management system initiative, this will mean that the Department and OPDIVs will greatly enhance their ability to manage IRM cohesively and effectively at HHS in this next IRM strategic planning period.

7. Service-Oriented Architecture

SOA initiatives are leading a revolution in enterprise business and IRM integration. Many companies and government agencies are moving toward SOA projects, from limited scale efforts, to large strategic SOA rollouts at the enterprise level with support from senior management in IRM and sometimes business executives. SOA as an IRM strategy has gained traction in the past year. SOA enables a business service layer on top of applications, which facilitates emphasis on business function support rather than hardware and software.

The core business value of SOA is in delivering business agility. Industry best practices have demonstrated that the business benefit of SOA is in service reconfiguration flexibility, with changes done in days by business people, not in weeks by technical specialists. This means that the business and technical architectures must be aligned, which is not the case in most organizations today. Expressing existing application architecture in SOA terms is not enough. Services must be business-oriented if they are to be orchestrated by business people. SOA helps to streamline IRM infrastructure, and helps to align IRM investments with business goals, optimizing IRM investments. The deployment of SOA in web service allows integration of business with current technologies.

SOA can be evolved based on existing systems and infrastructure rather than requiring a full-scale re-build. Organizations will achieve benefits from SOA by focusing their development effort around the creation of services using both new and existing components and technologies, combined with the component-based approach to software engineering and the enabling SOA infrastructure. The benefits of SOA include:

- **Business agility:** SOA facilitates business process improvement. It provides business users with an ideal environment for monitoring business operations. Process modeling is reflected in the business services. Process manipulation and the change of process flow can be achieved by the use of BPM (Business Process Modeling) tools integrated into the SOA infrastructure.
- **Reuse and leverage existing assets:** A business service can be constructed as an aggregation of existing components, using a suitable SOA infrastructure and made available to the enterprise. Legacy systems can be encapsulated and accessed via web service interfaces.
- **Common infrastructure as commodity:** SOA infrastructure is becoming a commodity that can be implemented by the use of commercial-off-the shelf (COTS) products. By enforcing standards, its development and deployment can be consistent across an enterprise. Existing components, newly-developed components, and components purchased from vendors can be consolidated within a well-defined SOA infrastructure.
- **Reduced development cost:** The reuse of existing service and components will reduce software development time and cost.

Beyond SOA, and to align with the HHS enterprise structure, HHS will explore a Federated SOA solution, and this Federated SOA approach will be tightly integrated with, and a subset of the HHS Enterprise Architecture. In combination, this approach can be viewed as an HHS Federated, Service Oriented Enterprise Architecture (SOEA). HHS will leverage SOA technologies for delivery of common services across the Department to support both enterprise IRM initiatives as well as Mission Oriented IRM investment (systems and applications) across the Department.

Integration and Interoperability, and the use of a Federated, Service-Oriented Enterprise Architecture Approach—Application and infrastructure integration and interoperability are consistent goals for any large, diverse, organization such as HHS. Technologies and strategies for information integration and interoperability continue to evolve, with the latest trend focusing on SOAs. While not new, SOAs traditionally focus on Web Services based applications, however, the architectures and the implementation for SOAs is not limited to this paradigm. Building on current OPDIV activities, as well as State and local activities to explore and implement SOA-based integration and interoperability objectives, HHS will leverage these investments and will establish an SOA-based approach to IRM common service delivery and integration initiatives. This approach will provide guidance, governance, policy, and technical strategies for implementation of a Federated SOEA that will establish Service Provider/Service Consumer relationships across the Department. In addition, this approach will look to the OPDIVs to fulfill a role as Service Consumers as well as Service Owners and Providers in a truly federated approach. This recognizes and leverages in-place IRM infrastructure, skills, and capabilities across our diverse organization. In this approach, the OCIO will focus on the Federated SOEA, and will provide guidance, policy, and support in the implementation of Department-wide SOA solutions.

8. Health Information Technology

IRM Support to the ONC: HHS has made rapid and significant progress in the Health IT initiative since President Bush called for most Americans to have access to an interoperable electronic health record by 2014 in his 2004 Technology Agenda¹. The ONC was established within the OS at HHS in 2005 and has conducted work in several key areas of the HIT Initiative such as:

- Adoption of electronic health records (EHR)
- Creating prototype architectures for a national health information network (NHIN)
- Ensuring health information privacy and security
- Exchanging health information
- Harmonizing standards
- Certifying EHR products

In addition, the American Health Information Community (AHIC), a federal advisory committee made up of public and private sector leaders who represent a broad spectrum of health-care

¹ U.S. Department of Health and Human Services Health Information Technology Initiative Major Accomplishments: 2004-2006

stakeholders, was formed to make recommendations to the Secretary on how to accelerate adoption of interoperable electronic HIT in a smooth, market-led way.

In 2006, HHS achieved several major milestones and these significant accomplishments will provide tangible value to health-care consumers – helping to reduce costs and medical errors with better information technology.

The OCIO is committed to the principles, objectives, and strategies of the ONC for HIT Initiative, including FHA, and the integration and adoption of open standards across the Department. The OCIO will support the ONC with technical IRM consulting, as required, in a variety of areas such as:

- HIT Standards review, adoption, and implementation
- Examination of technology and architecture best practices and approaches that align with the ONC strategic framework and objectives
- Technology reviews and inputs
- Evaluation support for technologies and prototypes as appropriate

The OCIO will also coordinate and collaborate on EA activities with the FHA and ONC to ensure that Department strategic and tactical planning initiatives and approaches are coordinated and synchronized.

9. Communications and Collaboration

HHS communication and collaboration are increasingly interconnected in order to get maximum value from the IRM infrastructure, and enable personnel to collaborate efficiently. As a result, messaging and collaboration servers that enable e-mail, document sharing, and instant messaging have become a mission-critical infrastructure component in business environments throughout the government. Because e-mail servers are aggregation points for data and are critical to the day-to-day operations of most government agencies, security is of the utmost interest in the Department. E-mail has become the most common vehicle for virus infections, and was the means of entry in the majority of virus incidents in 2005. The Federal Government and Corporations are starting to depend on collaborative Web sites and instant messaging to enable growth, productivity, and communication. These too have become targets of malicious software writers and require protection against viruses and worms.

The workshop strategic planning process noted a request for telemedicine network infrastructure to enable video-conferencing services for medical consultations. This would require quality-of-service (QOS) enhancements in the delivery infrastructure to handle high-bandwidth video transmission. This was requested by the Indian Health Service, but the concept would apply equally to service providers with customers in rural locations.

6. CONCLUSION

This *HHS IRM Strategic Plan 2007-2012* represents a major update from the previous plan because of the revision of the HHS Strategic Business plan, the publication of the FTF initiatives, and the implementation of numerous management improvement initiatives impacting IRM. This represents an ambitious agenda for HHS OCIO to support the HHS mission and in the words of the new IRM mission statement, to “efficiently and effectively manage information and information technology resources.”

This IRM Strategic Plan also reflects HHS’ commitment to supporting the President’s and the Secretary’s visions to help the Department improve the way it conducts business and serves its customers and stakeholders. Each of the IRM strategic goals and objectives is based on a results-oriented management approach. The OCIO and HHS CIO will track progress toward each goal and objective through a series of performance measures. The performance management information will be used to assess progress and compliance and will serve as a critical input for planning to ensure continued improvement.

Finally, this version of the HHS IRM Strategic Plan is evidence of significant improvement and the developing maturity of the HHS IRM strategic planning program. The HHS IRM community is committed to optimizing its IRM investments to enable achievement of successful HHS business outcomes. HHS firmly believes that a robust IRM planning program is essential to ensuring success in IRM. The HHS OCIO will continue to develop and refine this plan and its IRM strategic planning program to maximize benefits to its stakeholders and the public.

Appendix A – ACRONYMS

ACF	Administration for Children and Families
AHRQ	Agency for Healthcare Research and Quality
AOA	Administration on Aging
ASPE	Assistant Secretary for Planning and Evaluation
ATSDR	Agency for Toxic Substances and Disease Registry
BI	Business Intelligence
BRM	Business Reference Model
CCA	Clinger-Cohen Act
CDC	Centers for Disease Control and Prevention
CIO	Chief Information Officer
CIOC	Chief Information Officer Council
COOP	Continuity of Operations
CMMI	Capability Maturity Model Integration
CMS	Centers for Medicare and Medicaid Services
CPIC	Capital Planning and Investment Control
COTS	Commercial off the Shelf
CISO	Chief Information Security Officer
EA	Enterprise Architecture
EAAF	EA Assessment Framework
E-Gov	Electronic Government
EHR	Electronic Health Records
EPLC	Enterprise Performance Lifecycle
ESOA	Enterprise Service Oriented Architecture
EV	Earned Value
EVM	Earned Value Management
FDA	Food and Drug Administration
FEA	Federal Enterprise Architecture
FHA	Federal Health Architecture
FIPS	Federal Information Processing Standards
FISMA	Federal Information Security Management Act
FTF	Federal Transition Framework
FY	Fiscal Year
GAO	Government Accountability Office
GISRA	Government Information Security Reform Act
GPEA	Government Paperwork Elimination Act
GPRA	Government Performance and Results Act
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HIT	Health Information Technology
HITSP	Health Information Technology Standard Panel

HRSA	Health Resources and Services Administration
HSPD-1	Homeland Security Presidential Directive-1
HSPD-7	Homeland Security Presidential Directive-7
HSPD-12	Homeland Security Presidential Directive-12
HTML	HyperText Markup Language
IAE	Integrated Acquisition Environment
IG	Inspector General
IHS	Indian Health Service
IP	Internet Protocol
IPv6	Internet Protocol Version 6
IPSec	Internet Protocol Security
IR	Information Resources
IRM	Information Resources Management
ISE	Information Sharing Environment
ISS	Information Systems Security
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITIRB	Information Technology Investment Review Board
ITIM	Information Management Investment Management
ITMRA	Information Technology Management and Reform Act
LOB	Line of Business
NAC	Network Access Control
NHIN	National Health Information Network
NIH	National Institutes of Health
NIST	National Institute of Standards and Technology
NSDI	National Spatial Data Infrastructure
OCIO	Office of the Chief Information Officer
OMB	Office of Management and Budget
ONC	Office of National Coordinator
OPDIV	Operating Division
OSI	Open Systems Interconnect
PDD	Presidential Decision Directive
PKI	Public Key Infrastructure
PMA	President's Management Agenda
PM&E	Performance Management and Evaluation
PMO	Program Management Office
PMWG	Performance Management Working Group
PRA	Paperwork Reduction Act
PRM	Performance Reference Model
PSC	Program Support Center
QOS	Quality of Service

ROI	Return on Investment
SAMHSA	Substance Abuse and Mental Health Administration
S.M.A.R.T.	Specific, Measurable, Achievable, Relevant, and Time-Delineated
SME	Subject Mater Expert
SOA	Service Oriented Architecture
SOEA	Service Oriented Enterprise Architecture
SOP	Standard Operating Procedure
SP	Special Publication
TRB	Technology Review Board
U.S.	United States
VPN	Virtual Private Network